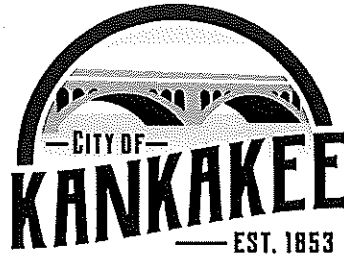


CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT



Fire Department
 385 East Oak Street
 Kankakee, Illinois 60901
 (815) 933-0450 Fax (815) 933-0456

NOTICE OF REQUEST FOR SEALED BIDS

The Kankakee Fire Department hereby gives Public Notice of the request for sealed bids for the purchase of one (1) Class A Pumper Apparatus and auxiliary equipment per the specifications described on the attached pages. Each proposal shall be received in a sealed envelope and clearly labeled "Fire Engine Bid". Any proposal not received by the posted date and time shall be rejected.

The City of Kankakee reserves the right to reject any or all bids and waive all informalities.

Sealed proposals are to be received by **10:00 am CST on the 24th day of February, 2021.**

Sealed proposals shall be publicly opened on the 24th day of Feb, 2021 at 10:00 AM CST in the Clerk's Office (or related meeting/conference room) for the City of Kankakee located at 304 S. Indiana Ave. No award will be considered until the Kankakee Fire Department has had sufficient time to review proposal.

Copies of the bid proposal can be obtained by emailing bidopenings@citykankakee-il.gov or by requesting a copy from the City Clerk's office (815) 933-0481 or from the City of Kankakee's website www.citykankakee-il.gov

Contact person:

Any questions pertaining to the published specifications shall be directed to Chief Damon Schuldt at the following contact information:

Fire Station Telephone: 815-933-0452
 Cellular Telephone: 815-263-0432
 Email: dwschuldt@citykankakee-il.gov

To submit sealed bid proposal:

Sealed proposals to be mailed to or delivered in person at:
(If delivering in person, wear a mask and practice social distancing)
 Kankakee City Clerk's Office
 304 S. Indiana Ave.
 Kankakee, IL 60901

Bidder Complies	
Yes	No

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	Bidder Complies	
	Yes	No
<p><u>INTENT OF SPECIFICATIONS</u></p> <p>It shall be the intent of these specifications to cover the furnishing and delivery of a complete fire apparatus. These detailed specifications cover the requirements as to the type of construction, finish, equipment and tests to which the fire apparatus shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor.</p> <p><u>INSTRUCTIONS TO BIDDERS</u></p> <p>The purchaser's standards for bidding automotive fire apparatus must be strictly adhered to, and all bid forms and questions must be complete and submitted with the bid. Omissions shall result in immediate rejection of the bid.</p> <p>Bids shall only be considered from companies that have an established reputation in the field of fire apparatus construction and have been in business for a minimum of 20 years. Furthermore, in order to ensure fair, ethical, and legal competition, neither the original equipment manufacturer (O.E.M.) nor parent company of the O.E.M. shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market (no exception).</p> <p>Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified.</p> <p>Any apparatus manufacturer or their parent company who has had a performance bond called in the last 10 years, shall not be eligible to bid. Any bids from these manufactures shall be immediately rejected (no exception).</p> <p>Each bid shall be accompanied by a set of manufacturer's set of specifications consisting of a detailed description of the apparatus, construction methods, and equipment proposed to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all components parts and equipment, providing proof of compliance with each and every item in the departments advertised specifications. A letter only, even though written on company letterhead, shall not be sufficient. An exception to this requirement shall not be acceptable.</p> <p>In accordance with the current edition of NFPA 1901 standards, the proposal shall specify whether the fire department or apparatus dealership shall provide required loose equipment.</p> <p>The purchaser will utilize this advertised specification to compare all submitted bid proposals. To facilitate comparison, all bid proposal specifications shall be submitted in the same sequence as the advertised specification. Any bidder who fails to submit a set of bid proposal specifications, or who photo copies and submits these specifications as their own construction details will be considered non responsive. This shall render such proposal ineligible for award.</p>		

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	Bidder Complies	
	Yes	No
<p>The purchaser's specification shall, in all cases, govern the construction of the apparatus, unless a properly documented exception or deviation was approved. Any bid indicating that the manufacturer's proposal shall supersede the purchaser's specification will be considered a complete substitute and immediately rejected.</p> <p>THE PURCHASER HAS THE RIGHT TO REJECT ANY BIDS WHICH DOES NOT MEET THESE SPECIFICATIONS AND IS THE SOLE DECIDER TO DEEM WHICH BID IS IN THE BEST INTEREST OF THE PURCHASER.</p> <p><u>EXCEPTIONS</u></p> <p>These specifications are based upon design and performance criteria which have been developed by the fire department as a result of extensive research and careful analysis. Subsequently these specifications reflect the only type of fire apparatus that is acceptable at this time and all specifications herein contained are considered as minimum. Therefore exceptions to the specifications may not be accepted.</p> <p>Bidders shall indicate in the "yes/no" column if their bid complies on each item (paragraph) specified.</p> <p>If a product brand name is specified and is commercially available to all bidders, an exception to such items is not acceptable and such bid may be rejected.</p> <p>Exceptions shall be allowed if they are equal to or superior to that specified and provided they are listed and fully explained on a separate page. All deviations, no matter how slight, shall be clearly explained on a separate sheet, in the bid sequence, citing the page and paragraph number(s) of the specifications, how the proposal deviation is different, how the deviation meets or exceeds the specifications and why it is necessary, and entitled "EXCEPTIONS TO SPECIFICATIONS". The buyer reserves the right to require a bidder to provide proof in each case that a substituted item is equal to that specified. The buyer shall be the sole judge in determination of acceptable substitutes.</p> <p>Proposals that are found to have deviations without listing them or bids taking total exceptions to these advertised specifications will be rejected (no exception).</p> <p>Bids not including all exceptions is a material breach and shall result in the bid being immediately rejected (no exception).</p> <p><u>GENERAL DESIGN AND CONSTRUCTION</u></p> <p>The cab, chassis, pump module, and body are to be entirely designed, assembled and painted by the prime vehicle manufacturer, which minimizes third party involvement on engineering, design, service and warranty issues.</p> <p>All bidders shall provide a list of the company, manufacturing location, and engineering source for each individual major component, including but not limited to the welded cab assembly, the pumphouse module assembly, the chassis assembly, body and electrical system. Apparatus</p>		

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	Bidder Complies	
	Yes	No
<p>using any subcontracted cab, chassis, pump module, electrical system or body will not be acceptable.</p> <p>The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall be in accordance with the recommendations of the National Fire Protection Association.</p> <p>The bidder shall make accurate statements as to the apparatus weight and dimensions.</p> <p><u>QUALITY AND WORKMANSHIP</u></p> <p>All steel welding shall follow American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding shall follow American Welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding shall follow American Welding Society B2.1-2000 requirements for structural welding of sheet metal. Flux core arc welding to use alloy rods, type 7000, American welding Society standards A5.20-E70T1.</p> <p>To demonstrate the quality of the product and service, each bidder shall provide a list of at least twenty (20) fire departments/municipalities in the region that have bought a second time from the representing dealer.</p> <p><u>DELIVERY</u></p> <p>Apparatus, to ensure proper break in of all components while still under warranty, shall be delivered under its own power - rail or truck freight shall not be acceptable. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered. Delivery shall be within 300 days from execution of the contract and any delay shall refund \$250 per day back to the City of Kankakee.</p> <p><u>MANUALS AND SERVICE INFORMATION</u></p> <p>The manufacturer shall supply at time of delivery, complete operation and maintenance manuals covering the complete apparatus as delivered. A permanent plate shall be mounted in the drivers compartment which specifies the quantity and type of fluid required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.</p> <p><u>SAFETY VIDEO</u></p> <p>Since video is much more effective than written documentation and can be replayed for new personnel and as a refresher for existing personnel, an apparatus safety video, in DVD format shall be provided at time of delivery. This video shall address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus. Safety procedures for the following shall be included on the video: vehicle pre trip inspection, chassis operation, pump operation and maintenance.</p>		

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	Bidder Complies	
	Yes	No
<p><u>PERFORMANCE TESTS AND REQUIREMENTS</u></p> <p>A road test shall be conducted with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axle shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. Vehicle shall adhere to the following parameters:</p> <p>A) The apparatus, when fully equipped and loaded, shall have not less than 25 percent nor more than 50 percent of the weight on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle.</p> <p>B) The apparatus shall be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.</p> <p>C) The service brakes shall be capable of stopping a fully loaded vehicle in 35 feet at 20 mph on a level concrete highway. The air brake system shall conform to Federal Motor vehicle Safety Standards (FMVSS) 121.</p> <p>D) The apparatus, fully loaded, shall be capable of obtaining a speed of 50 mph on a level concrete highway with the engine not exceeding the governed rpm (full load).</p> <p><u>FAILURE TO MEET TEST</u></p> <p>In the event the apparatus fails to meet the test requirements of these specifications on the first trial, second trials may be made at the option of the bidder within 30 days of the date of the first trial. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes to conform to any clause of the specifications, within 30 days after notice is given to the bidder of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser or its use by the purchaser during the above-specified period with the permission of the bidder shall not constitute acceptance.</p> <p><u>SERVICE AND WARRANTY SUPPORT (DEALERSHIP)</u></p> <p>TO INSURE FULL SERVICE AFTER DELIVERY, THE SELLING BIDDER/DEALERSHIP MUST BE CAPABLE OF PROVIDING SERVICE WHEN REQUIRED.</p> <p>The bidder/dealership shall show that the company is in position to render prompt service and to furnish replacement parts.</p> <p>Each bidder/dealership must be able to display that they are actively in the fire apparatus service business by operating in conjunction with a factory authorized service center and parts repository capable of satisfying the warranty service requirements and parts requirements of the vehicle(s) being purchased.</p>		

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	Bidder Complies	
	Yes	No
<p>The bidder/dealership must state the location of this authorized service center. This service center must have a staff of factory-trained mechanics, well versed in all aspects of service for all major components of the apparatus. The service center must be within one hundred (100) miles of the Fire Department.</p> <p><u>SERVICE AND WARRANTY SUPPORT (MANUFACTURER)</u></p> <p>To provide an additional layer of service support, the successful manufacturer must also own a service facilities located in the northern portion and/or midwest portion of the US.</p> <p>The bidder shall provide detailed documentation of service and replacement part resources.</p> <p>The manufacturer shall employ a staff of adequate size specifically dedicated to providing customer support and parts for the fielded fleet of vehicles it has produced.</p> <p>The manufacturer must be capable of providing both in-house and on-site service for the apparatus.</p> <p><u>LIABILITY</u></p> <p>The successful bidder shall defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract.</p> <p><u>INSURANCE PROVIDED BY BIDDER</u></p> <p><u>COMMERCIAL GENERAL LIABILITY INSURANCE</u></p> <p>The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:</p> <p>Each Occurrence\$1,000,000</p> <p>Products/Completed Operations Aggregate\$1,000,000</p> <p>Personal and Advertising Injury\$1,000,000</p> <p>General Aggregate\$2,000,000</p> <p>Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form and shall include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy shall include Owner as an additional insured when required by written contract.</p> <p><u>COMMERCIAL AUTOMOBILE LIABILITY INSURANCE</u></p> <p>The successful bidder shall, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile liability insurance and coverage shall be written on a Commercial Automobile liability form:</p>		

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	Bidder Complies	
	Yes	No
<p>Each Accident Combined Single Limit:\$1,000,000</p> <p><u>UMBRELLA/EXCESS LIABILITY INSURANCE</u></p> <p>The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:</p> <p>Aggregate:\$3,000,000</p> <p>Each Occurrence:\$3,000,000</p> <p>The umbrella policy shall be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile Liability policies.</p> <p>The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.</p> <p>Coverage shall be provided by a carrier(s) rated A- or better by A.M. Best.</p> <p>All policies shall provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance shall provide the following cancellation clause: Should any of the above described polices be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions.</p> <p>Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate shall show the purchaser as certificate holder.</p> <p><u>INSURANCE PROVIDED BY MANUFACTURER</u></p> <p><u>PRODUCT LIABILITY INSURANCE</u></p> <p>The manufacturer shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of Product Liability insurance:</p> <p>Each Occurrence\$1,000,000</p> <p>Products/Completed Operations Aggregate\$1,000,000</p> <p>Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form. The manufacturer's policy shall include the owner as additional insured when required by written contract between the Owner and a Pierce authorized dealer.</p>		

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	Bidder Complies	
	Yes	No
<p><u>UMBRELLA/EXCESS LIABILITY INSURANCE</u></p> <p>The manufacturer shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:</p> <p>Each Occurrence:\$25,000,000</p> <p>Aggregate:\$25,000,000</p> <p>The umbrella policy shall be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.</p> <p>The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.</p> <p>Coverage shall be provided by a carrier(s) rated A- or better by A.M. Best.</p> <p>All policies shall provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance shall provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice shall be delivered in accordance with the policy provisions.</p> <p>Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate shall show the purchaser as the certificate holder.</p> <p><u>SINGLE SOURCE MANUFACTURER</u></p> <p>Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source is a manufacturer that designs and manufactures their products using an integrated approach, including the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body being designed, fabricated and assembled on the bidder's premises. The electrical system (hardwire or multiplex) shall be both designed and integrated by the same apparatus manufacturer. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body, pumphouse, cab weldment and chassis). The bidder shall provide evidence that they comply with this requirement.</p> <p>The bidder shall state the location of the factory where the apparatus is to be built.</p> <p><u>NFPA 2016 STANDARDS</u></p> <p>This unit shall comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions shall be set forth in the Statement of Exceptions.</p>		

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	Bidder Complies	
	Yes	No
<p>Certification of slip resistance of all stepping, standing and walking surfaces shall be supplied with delivery of the apparatus.</p> <p>All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points shall be identified on the customer approval print and are shown as approximate. Actual location(s) shall be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.</p> <p>A plate that is highly visible to the driver while seated shall be provided. This plate shall show the overall height, length, and gross vehicle weight rating.</p> <p>The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.</p> <p>An official of the company shall designate, in writing, who is qualified to witness and certify test results.</p> <p><u>NFPA COMPLIANCY</u></p> <p>Apparatus proposed by the bidder shall meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications shall be indicated in the proposal as "non-NFPA".</p> <p><u>VEHICLE INSPECTION PROGRAM CERTIFICATION</u></p> <p>To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, shall be third-party, independent, audit-certified through a third party, that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus (no exception).</p> <p>A placard shall be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.</p> <p><u>PUMP TEST</u></p> <p>The pump shall be tested, approved, and certified at the manufacturer's expense. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the manufacturer's record of pump construction details shall be forwarded to the Fire Department.</p>		

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	Bidder Complies	
	Yes	No
<p><u>GENERATOR TEST</u></p> <p>If the unit has a generator, the generator shall be tested, approved, and certified at the manufacturer's expense. The test results shall be provided to the Fire Department at the time of delivery.</p> <p><u>BREATHING AIR TEST</u></p> <p>If the unit has breathing air, an air sample shall be drawn from the air system to certify that the air quality meets the requirements of NFPA 1989, <i>Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection</i>.</p> <p><u>BID BOND</u></p> <p>All bidders shall provide a bid bond as security for the bid in the form of a 10% bid bond to accompany their bid. This bid bond shall be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond shall be issued by an authorized representative of the Surety Company and shall be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond shall include language, which assures that the bidder/principal shall give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.</p> <p>Proposals received from bidders who do not manufacture the chassis shall provide a warranty that shall be issued jointly and severally by, and signed by, both the bidder and the chassis manufacturer.</p> <p>If the successful bidder does not manufacture the chassis, the bidder shall supply a warranty bond, in addition to their performance bond, along with their signed contract. This warranty bond shall guarantee all terms and conditions of the Basic One (1) Year Limited Warranty and names both the bidder and chassis manufacturer as co-principals. This warranty bond shall be issued for the contract amount and shall remain in force for a term which is consistent with the term of the Basic One (1) Year Limited Warranty.</p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.</p> <p><u>PERFORMANCE BOND</u></p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are</p>		

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	Bidder Complies	
	Yes	No
<p>included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.</p> <p><u>APPROVAL DRAWING</u></p> <p>A drawing of the proposed apparatus shall be provided for approval before construction begins. The sales representative shall also have a copy of the same drawing. The finalized and approved drawing shall become part of the contract documents. This drawing shall indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.</p> <p>A "revised" approval drawing of the apparatus shall be prepared and submitted by the manufacturer to the purchaser showing any changes made to the approval drawing.</p> <p><u>ELECTRICAL WIRING DIAGRAMS</u></p> <p>Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.</p> <p><u>OVERALL VEHICLE HEIGHT</u></p> <p>The Overall height of the vehicle shall not exceed 124.00 inches. (NO EXCEPTION ALLOWED)</p> <p><u>CHASSIS</u></p> <p>Chassis provided shall be a new, tilt-type custom fire apparatus. The chassis shall be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis shall be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required.</p> <p><u>WHEELBASE</u></p> <p>The wheelbase of the vehicle shall be no greater than 190.00 inches.</p> <p><u>GVW RATING</u></p> <p>The gross vehicle weight rating shall be a minimum of 50,000 lbs.</p> <p><u>FRAME</u></p> <p>The chassis frame shall be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails shall be heat-treated steel measuring 10.25" x 3.50" x 0.375".</p> <p>Each rail shall have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.</p> <p><u>FRONT NON DRIVE AXLE</u></p> <p>The front axle shall be of the independent suspension design with a ground rating of 22,800 lb.</p>		

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	Bidder Complies	
	Yes	No
<p>The turning angle shall be no less than 45 degrees.</p> <p><u>FRONT SUSPENSION</u></p> <p>Front independent suspension shall be provided with a minimum ground rating of 22,800 lb.</p> <p><u>FRONT SHOCK ABSORBERS</u></p> <p>Heavy-duty telescoping shock absorbers shall be provided on the front suspension.</p> <p><u>FRONT OIL SEALS</u></p> <p>Oil seals with viewing window shall be provided on the front axle.</p> <p><u>FRONT TIRES</u></p> <p>Front tires shall be 425/65R22.50 radials, 20 ply highway tread, rated for 22,800 lb maximum axle load and 68 mph maximum speed.</p> <p>The tires shall be mounted on 22.50" x 12.25" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.</p> <p><u>REAR AXLE</u></p> <p>The rear axle shall have a capacity of 27,000 lb.</p> <p><u>TOP SPEED OF VEHICLE</u></p> <p>A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 68 mph.</p> <p><u>REAR SUSPENSION</u></p> <p>The rear suspension shall be semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 27,000 lb. The spring hangers shall be castings.</p> <p>The two (2) top leaves shall wrap the forward spring hanger pin, and the rear of the spring shall be a slipper style end that shall ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye shall be a berlin eye that shall place the front spring pin in the horizontal plane within the main leaf.</p> <p>A steel encased rubber bushing shall be used in the spring eye. The steel encased rubber bushing shall be maintenance free and require no lubrication.</p> <p><u>REAR OIL SEALS</u></p> <p>Oil seals shall be provided on the rear axle(s).</p> <p><u>REAR TIRES</u></p> <p>Rear tires shall be four (4) 12R22.50 radials, 16 ply all season, rated for 27,120 lb maximum axle load and 75 mph maximum speed.</p> <p>The tires shall be mounted on 22.50" x 8.25" steel disc type wheels with a ten (10) stud, 11.25" bolt circle.</p>		

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	Bidder Complies	
	Yes	No
<p><u>TIRE BALANCE</u> All tires shall be balanced with Counteract balancing beads. The beads shall be inserted into the tire and eliminate the need for wheel weights.</p> <p><u>MUD FLAPS</u> Mud flaps shall be installed behind the front and rear wheels of the apparatus.</p> <p><u>WHEEL CHOCKS PROVIDED BY MANUFACTURER</u> NFPA 1901, 2016 edition, section 5.9.4 requires two (2) or more wheel chocks mounted in readily accessible locations, that together shall hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released. The manufacturer shall provide and install these wheel chocks.</p> <p><u>WHEEL CHOCK BRACKETS PROVIDED BY MANUFACTURER</u> The manufacturer shall provide and install the wheel chock brackets. Mounting TBD at prebuild trip/meeting.</p> <p><u>ANTI-LOCK BRAKE SYSTEM</u> The vehicle shall be equipped with an anti-lock braking system. The ABS shall provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology shall control the anti-lock braking system. Each wheel shall be monitored by the system. When any particular wheel begins to lockup, a signal to be sent to the control unit. This control unit shall then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system shall eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.</p> <p><u>BRAKES</u> The service brake system shall be full air type. The front brakes shall be 17.00" disc type. The rear brakes shall be 16.50" x 8.63" cam operated with automatic slack adjusters.</p> <p><u>BRAKE SYSTEM AIR COMPRESSOR</u> The air compressor shall have 25.9 cubic feet per minute output.</p> <p><u>BRAKE SYSTEM</u> The brake system shall include:</p> <ul style="list-style-type: none"> • Brake treadle valve • Heated automatic moisture ejector on air dryer • Total air system minimum capacity of 4,272 cubic inches • Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi • Spring set parking brake system 		

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	Bidder Complies																					
	Yes	No																				
<ul style="list-style-type: none"> • Parking brake operated by a push-pull style control valve • A parking "brake on" indicator light on instrument panel • Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi • A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa) • 1/4 turn drain valves on each air tank <p>The air tank shall be primed and painted to meet a minimum 750 hour salt spray test.</p> <p>To reduce the effects of corrosion, the air tank shall be mounted with stainless steel brackets (no exception).</p> <p><u>BRAKE SYSTEM AIR DRYER</u></p> <p>The air dryer shall be properly sized for the brake system with internal wet tank, spin-on coalescing filter cartridge and 100 watt heater.</p> <p><u>BRAKE LINES</u></p> <p>Color-coded nylon brake lines shall be provided. The lines shall be wrapped in a heat protective loom where necessary in the chassis.</p> <p><u>AIR INLET WITH AUTOMATIC EJECT</u></p> <p>One (1) air inlet with automatic air eject shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall automatically disconnect the air line when the truck is started. It shall be equipped with a male coupling and be located in the driver's side cab step area. A check valve shall be provided to prevent reverse flow of air. The inlet shall discharge into the "wet" tank of the brake system. A mating female coupling shall also be provided with the loose equipment.</p> <p><u>ENGINE</u></p> <p>The chassis shall be powered by an electronically controlled engine as described below:</p> <table border="1"> <tbody> <tr> <td>Make:</td><td>Cummins</td></tr> <tr> <td>Model:</td><td>X12</td></tr> <tr> <td>Power:</td><td>455 hp at 1900 rpm</td></tr> <tr> <td>Torque:</td><td>1700 lb-ft at 1000 rpm</td></tr> <tr> <td>Governed Speed:</td><td>2000 rpm</td></tr> <tr> <td>Emissions Level:</td><td>EPA 2021</td></tr> <tr> <td>Fuel:</td><td>Diesel</td></tr> <tr> <td>Cylinders:</td><td>Six (6)</td></tr> <tr> <td>Displacement:</td><td>720 cubic inches (11.8L)</td></tr> <tr> <td>Starter:</td><td>Delco 39MT™</td></tr> </tbody> </table>	Make:	Cummins	Model:	X12	Power:	455 hp at 1900 rpm	Torque:	1700 lb-ft at 1000 rpm	Governed Speed:	2000 rpm	Emissions Level:	EPA 2021	Fuel:	Diesel	Cylinders:	Six (6)	Displacement:	720 cubic inches (11.8L)	Starter:	Delco 39MT™		
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CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

		Bidder Complies	
		Yes	No
Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.		
<p>The engine shall include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system shall give the owner or repair technician access to state of health information for various vehicle sub systems. The system shall monitor vehicle systems, engine and after treatment. The system shall illuminate a malfunction indicator light on the dash console if a problem is detected.</p> <p><u>REMOTE MOUNTED ENGINE FILTERS</u></p> <p>The engine fuel and oil filters shall be remote mounted for ease of maintenance.</p> <p><u>HIGH IDLE</u></p> <p>A high idle switch shall be provided, inside the cab, on the instrument panel, that shall automatically maintain a preset engine rpm. A switch shall be installed, at the cab instrument panel, for activation/deactivation.</p> <p>The high idle shall be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light shall be provided, adjacent to the switch. The light shall illuminate when the above conditions are met. The light shall be labeled "OK to Engage High Idle."</p> <p><u>ENGINE BRAKE</u></p> <p>An engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.</p> <p>The driver shall be able to turn the engine brake system on/off and have a high, medium and low setting.</p> <p>The engine brake shall activate when the system is on and the throttle is released.</p> <p>The high setting of the brake application shall activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.</p> <p>The engine brake shall be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.</p> <p>The ABS system shall automatically disengage the auxiliary braking device, when required.</p> <p><u>CLUTCH FAN</u></p> <p>A fan clutch shall be provided. The fan clutch shall be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.</p>			

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>ENGINE AIR INTAKE</u></p> <p>The engine air intake shall be located above the engine cooling package. It shall draw fresh air from the front of the apparatus through the radiator grille.</p> <p>A stainless steel metal screen shall be installed at the inlet of the air intake system that shall meet NFPA 1901 requirements.</p> <p>The air cleaner and stainless steel screen shall be easily accessible by tilting the cab.</p> <p><u>EXHAUST SYSTEM</u></p> <p>The exhaust system shall include an aftertreatment device to meet current EPA standards. The exhaust system shall be stainless steel from the turbo to the inlet of the aftertreatment device, and shall be 5.00" in diameter. An insulation wrap shall be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust shall terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser shall be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields shall be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p> <p><u>RADIATOR</u></p> <p>The radiator and the complete cooling system shall meet or exceed NFPA and engine manufacturer cooling system standards.</p> <p>For maximum corrosion resistance and cooling performance, the entire radiator core shall be constructed using long life aluminum alloy. The radiator core shall consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. No solder joints or leaded material of any kind shall be acceptable in the core assembly.</p> <p>The radiator core shall have a minimum front area of 1060 square inches.</p> <p>Supply tank shall be made of heavy duty glass-reinforced nylon and the return tank shall be made of aluminum. Both tanks shall be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There shall be a full steel frame around the inserts to enhance cooling system durability and reliability.</p> <p>The radiator shall be compatible with commercial antifreeze solutions.</p> <p>The radiator assembly shall be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.</p> <p>The radiator shall include a de-aeration/expansion tank. For visual coolant level inspection, the radiator shall have a built-in sight glass. The radiator shall be equipped with a 15 psi pressure relief cap.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p>A drain port shall be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.</p> <p>Shields or baffles shall be provided to prevent recirculation of hot air to the inlet side of the radiator.</p> <p><u>COOLANT LINES</u></p> <p>Rubber hose shall be used for all engine coolant lines to be installed by the chassis manufacturer.</p> <p>Hose clamps shall be stainless steel constant torque type to prevent coolant leakage. They shall react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.</p> <p><u>FUEL TANK</u></p> <p>A 65 gallon fuel tank shall be provided and mounted at the rear of the chassis. The tank shall be constructed of aluminum with the exterior unfinished. It shall be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank shall be mounted with stainless steel straps. (no exception).</p> <p>A .75" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be located on the left hand side of the body and be covered with a hinged, spring loaded, painted steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."</p> <p>A .50" diameter vent shall be provided running from top of tank to just below fuel fill inlet.</p> <p>The tank shall meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.</p> <p>All fuel lines shall be provided as recommended by the engine manufacturer.</p> <p><u>DIESEL EXHAUST FLUID TANK</u></p> <p>A 4.5 gallon diesel exhaust fluid (DEF) tank shall be provided and mounted in the driver's side body rearward of the rear axle.</p> <p>A 0.50" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be provided and marked "Diesel Exhaust Fluid Only". The fill inlet shall be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, brushed painted steel door on the driver side of the vehicle.</p> <p>The tank shall meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.</p> <p>The tank shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies															
	Yes	No														
<p>The painted steel flip door for selecting between DEF fill and the diesel fill shall be spring loaded to default to covering the DEF fill.</p> <p><u>FUEL COOLER</u></p> <p>An air to fuel cooler shall be installed in the engine fuel return line.</p> <p><u>FUEL SEPARATOR</u></p> <p>The engine shall be equipped with an in-line spin-on fuel and water separator in addition to the engine fuel filters.</p> <p><u>TRANSMISSION</u></p> <p>An electronic, torque converting, automatic transmission shall be provided.</p> <p>The transmission shall be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display shall indicate when service is due.</p> <p>Two (2) PTO openings shall be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock).</p> <p>A transmission temperature gauge with red light and buzzer shall be installed on the cab instrument panel.</p> <p><u>TRANSMISSION SHIFTER</u></p> <p>A six (6)-speed push button shift module shall be mounted to right of driver on console. Shift position indicator shall be indirectly lit for after dark operation.</p> <p>The transmission ratio shall be:</p> <table><tr><td>1st</td><td>3.51 to 1.00</td></tr><tr><td>2nd</td><td>1.91 to 1.00</td></tr><tr><td>3rd</td><td>1.43 to 1.00</td></tr><tr><td>4th</td><td>1.00 to 1.00</td></tr><tr><td>5th</td><td>0.75 to 1.00</td></tr><tr><td>6th</td><td>0.64 to 1.00</td></tr><tr><td>R</td><td>4.80 to 1.00</td></tr></table> <p><u>TRANSMISSION COOLER</u></p> <p>A plate and fin transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature.</p> <p><u>DRIVELINE</u></p> <p>Drivelines shall be a heavy-duty metal tube and be equipped with universal joints.</p> <p>The shafts shall be dynamically balanced before installation.</p>	1st	3.51 to 1.00	2nd	1.91 to 1.00	3rd	1.43 to 1.00	4th	1.00 to 1.00	5th	0.75 to 1.00	6th	0.64 to 1.00	R	4.80 to 1.00		
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	Bidder Complies	
	Yes	No
<p>A splined slip joint shall be provided in each driveshaft where the driveline design requires it.</p> <p><u>STEERING</u></p> <p>Dual steering gears, with integral heavy-duty power steering, shall be provided. For reduced system temperatures, the power steering shall incorporate an air to oil cooler and a hydraulic pump with integral pressure and flow control. All power steering lines shall have wire braded lines with crimped fittings.</p> <p>A tilt and telescopic steering column shall be provided to improve fit for a broader range of driver configurations.</p> <p><u>STEERING WHEEL</u></p> <p>The steering wheel shall be have tilting and telescoping capabilities.</p> <p><u>LOGO AND CUSTOMER DESIGNATION ON DASH</u></p> <p>The dash panel shall have an emblem containing the fire apparatus manufacturer's logo and customer name. The emblem shall have three (3) rows of text for the customer's department name. There shall be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.</p> <p>The first row of text shall be: CITY OF</p> <p>The second row of text shall be: KANKAKEE</p> <p>The third row of text shall be: FIRE DEPT.</p> <p><u>BUMPER</u></p> <p>A one (1)-piece bumper manufactured from 0.25" formed steel with a 0.38" bend radius shall be provided. The bumper shall be a minimum of 10.00" high with a 1.50" top and bottom flange, and shall extend 19.00" from the face of the cab. The bumper shall be 95.28" wide with 45 degree corners and side plates. The bumper shall be metal finished and painted job color.</p> <p>To provide adequate support strength, the bumper shall be mounted directly to the front of the C channel frame. The frame shall be a bolted modular extension frame constructed of 50,000 psi tensile steel.</p> <p>Bumper shall have a hose trough 6 feet wide by 12 inches deep and 6 inches high.</p> <p><u>Gravel Pan</u></p> <p>A gravel pan, constructed of bright aluminum treadplate and shall have protective black abrasive resistant coating, similar to Rhino Liner, shall be furnished between the bumper and the cab face. The lining shall be properly installed by an authorized dealer.</p> <p>The pan shall be properly supported from the underside to prevent flexing and vibration.</p>		

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	Yes	No
<p><u>TOW HOOKS</u></p> <p>Two (2) painted steel tow eyelets shall be installed under the bumper and attached to the front frame members. All edges of the eyelets shall be smooth. The tow hooks shall be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow hooks shall not be used for lifting of the apparatus.</p> <p><u>BUMPER HOSE RESTRAINT</u></p> <p>The hose trough shall have a pair of 2.00" wide black nylon straps with velcro fasteners provided. The strap(s) shall be used to secure the hose in the tray.</p> <p><u>FRONT BUMPER COATING</u></p> <p>Protective black abrasive resistant coating shall be provided on the outside exterior of the top front bumper flange. It shall not be sprayed on the underside of the flange.</p> <p>The lining shall be properly installed by an authorized dealer.</p> <p><u>CAB</u></p> <p>The cab shall have a flat roof design and be designed specifically for the fire service and manufactured by the chassis builder.</p> <p>The cab shall be built by the apparatus manufacturer in a facility located on the manufacturer's premises (no exception).</p> <p>For reasons of structural integrity and enhanced occupant protection, the cab shall be a heavy-duty design.</p> <p>The cab floors shall be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area shall also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing shall run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.</p> <p>The cab shall be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability (no exception).</p> <p>The overall height (from the cab roof to the ground) of approximately 99.00". The overall height listed shall be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension shall increase the overall height listed.</p> <p>The crew cab shall be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.</p> <p>The cab shall be a full tilt cab style.</p>		

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	Bidder Complies	
	Yes	No
<p>A 3-point cab mount system with rubber isolators shall improve ride quality by isolating chassis vibrations from the cab.</p> <p><u>CAB ROOF DRIP RAIL</u> For enhanced protection from inclement weather, a drip rail shall be furnished on the sides of the cab. The drip rail shall be painted to match the cab roof, and bonded to the sides of the cab. The drip rail shall extend the full length of the cab roof.</p> <p><u>INTERIOR CAB INSULATION</u> The cab shall include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.</p> <p><u>FENDER LINERS</u> Full circular inner fender liners in the wheel wells shall be provided.</p> <p><u>WINDSHIELD WIPERS</u> Electric windshield wipers with washer shall be provided that meet FMVSS and SAE requirements.</p> <p>The washer reservoir shall be able to be filled without raising the cab.</p> <p><u>ENGINE TUNNEL</u> Engine hood side walls shall be constructed of 0.375" aluminum. The top shall be constructed of 0.125" aluminum and shall be tapered at the top to allow for more driver and passenger elbow room.</p> <p>The engine hood shall be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.</p> <p><u>CAB REAR WALL EXTERIOR COVERING</u> The exterior surface of the rear wall of the cab shall be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered</p> <p><u>CAB LIFT</u> A hydraulic cab lift system shall be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.</p> <p>Lift controls shall be located on the right side pump panel or front area of the body in a convenient location.</p> <p>The cab shall be capable of tilting 43 degrees to accommodate engine maintenance and removal.</p> <p>The cab shall be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system shall be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p>system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms shall return to the normally closed and locked position.</p> <p>The hydraulic cylinders shall be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.</p> <p>For increased safety, a redundant mechanical stay arm shall be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device shall be manually stowed to its original position before the cab can be lowered.</p> <p><u>Cab Lift Interlock</u></p> <p>The cab lift system shall be interlocked to the parking brake. The cab tilt mechanism shall be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism shall be disabled.</p> <p><u>GRILLE</u></p> <p>A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, shall be provided on the front center of the cab.</p> <p><u>SIDE OF CAB MOLDING</u></p> <p>Chrome molding shall be provided on both sides of cab.</p> <p><u>MIRRORS</u></p> <p>A dual vision, motorized, west coast style mirror, with chrome finish, shall be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass shall be heated and adjustable with remote control within reach of the driver.</p> <p><u>DOORS</u></p> <p>To enhance entry and egress to the cab, the forward cab door openings shall be a minimum of 37.50" wide x 63.37" high. The crew cab doors shall be located on the sides of the cab and shall be constructed in the same manner as the forward cab doors. The crew cab door openings shall be a minimum of 34.30" wide x 63.37" high.</p> <p>A customized, vertical, pull-down type door handle shall be provided on the exterior of each cab door. The exterior handle shall be designed specifically for the fire service to prevent accidental activation, and shall provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands. Each door shall also be provided with an interior flush, open style paddle handle that shall be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles shall provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.</p> <p>The cab doors shall be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The locks shall be capable of activating when the doors are open</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

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	Yes	No
<p>or closed. The doors shall remain locked if locks are activated when the doors are opened, then closed.</p> <p>A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf shall be provided on all cab doors. There shall be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.</p> <p>A horizontal grab bar shall be installed on the inside of the door below the window. The grab handles shall be securely mounted.</p> <p>The bottom cab step at each cab door location shall be located below the cab doors and shall be exposed to the exterior of the cab.</p> <p><u>Door Panels</u> The inner cab door panels shall be constructed out of brushed stainless steel.</p> <p><u>MANUAL CAB DOOR WINDOWS</u> All cab entry doors shall contain a conventional roll down window.</p> <p><u>CAB STEPS</u> The forward cab and crew cab access steps shall be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps shall be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps shall be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps shall be a minimum 25.00" wide, and the crew cab steps shall be 21.65" wide with a 10.00" minimum depth. The inside cab steps shall not exceed 16.50" in height.</p> <p>The vertical surfaces of the step well shall be aluminum treadplate.</p> <p><u>CAB EXTERIOR HANDRAILS</u> A 1.25" diameter slip-resistant, knurled aluminum handrail shall be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.</p> <p><u>STEP LIGHTS</u> There shall be six (6) white LED step lights installed for cab and crew cab access steps.</p> <ul style="list-style-type: none"> • One (1) light for the driver's access steps. • Two (2) lights for the driver's side crew cab access steps. • Two (2) lights for the passenger's side crew cab access steps. • One (1) light for the passenger's side access step. <p>In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.</p>		

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	Bidder Complies	
	Yes	No
<p>The lights shall be activated when the battery switch is on and the adjacent door is opened.</p> <p><u>FENDER CROWNS</u></p> <p>Rubber fender crowns shall be provided around the cab wheel openings.</p> <p>Crowns shall be black.</p> <p><u>STORAGE COMPARTMENTS</u></p> <p>Provided on each side of the cab, to the rear of the crew cab access doors, shall be a storage compartment. The compartments shall be 13" wide x 35" high x 25" deep.</p> <p>There shall be two (2) reverse hinged double pan doors painted to match the cab exterior with a non-locking D-Ring latch, one (1) on each side of the cab. A rubber bumper for each exterior door shall be used as a door stop.</p> <p>The compartment interior shall be painted to match the cab interior.</p> <p><u>Compartment Lights</u></p> <p>There shall be LED lighting installed in each compartment. The lights shall be controlled by an automatic door switch.</p> <p><u>PIKE POLE STORAGE</u></p> <p>There shall be two (2) set(s) of holders for mounting of pike pole(s), PacTools Model 1004 and 1001 with cup holders. The holders shall be mounted vertically (1) each side rear of cab. The middle of the pole shall be held in place with an adjustable mounting bracket. The top of the pole shall be held in place with a short locking mount and the bottom of the pole shall be located in a cup holder.</p> <p><u>MOUNTING PLATE ON ENGINE TUNNEL</u></p> <p>Equipment installation provisions shall be installed on the engine tunnel.</p> <p>A 0.188" smooth aluminum plate shall be bolted to the top surface of the engine tunnel. The plate shall follow the contour of the engine tunnel and shall run the entire length of the engine tunnel. The plate shall be spaced off the engine tunnel .75" to allow for wire routing below the plate.</p> <p>The mounting surface shall be painted to match the cab interior.</p> <p><u>CAB INTERIOR</u></p> <p>The cab interior shall be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.</p> <p>The officer side dash shall be a flat faced design to provide easy maintenance and shall be constructed out of painted aluminum.</p>		

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	Bidder Complies	
	Yes	No
<p>The instrument cluster shall be surrounded with a high impact ABS plastic contoured to the same shape of the instrument cluster.</p> <p>The engine tunnel shall be painted aluminum to match the cab interior.</p> <p>For durability and ease of maintenance, the cab interior side walls shall be painted aluminum. The rear wall shall be painted aluminum.</p> <p>Headliner shall be installed in both forward and rear cab sections. Headliner material shall be vinyl. A sound barrier shall be part of its composition. Material shall be installed on aluminum sheet and securely fastened to interior cab ceiling.</p> <p>Forward portion of cab headliner shall permit easy access for service of electrical wiring or other maintenance needs.</p> <p>All wiring shall be placed in metal raceways. Routing through holes in tubing shall not be accepted due to chaffing that installation shall cause.</p> <p><u>CAB INTERIOR UPHOLSTERY</u></p> <p>The cab interior upholstery shall be 36 oz dark silver gray vinyl.</p> <p><u>CAB INTERIOR PAINT</u></p> <p>The cab interior metal surfaces, excluding the rear heater panels, shall be painted fire smoke gray, vinyl texture paint.</p> <p>The rear heater panels shall be painted black, vinyl textured paint.</p> <p><u>CAB FLOOR</u></p> <p>The cab and crew cab floor areas shall be covered with floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.</p> <p>The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.</p> <p><u>DEFROST/AIR CONDITIONING SYSTEM</u></p> <p>A ceiling mounted combination heater, defroster and air conditioning system shall be installed in the cab above the engine tunnel area.</p> <p><u>Cab Defroster</u></p> <p>A 54,000 BTU heater-defroster unit with 690 SCFM of air flow shall be provided inside the cab. The heater-defrost shall be installed in the forward portion of the cab ceiling. Air outlets shall be strategically located in the cab header extrusion per the following:</p> <ul style="list-style-type: none"> • One (1) adjustable shall be directed towards the left side cab window • One (1) adjustable shall be directed towards the right side cab window 		

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	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> Six (6) fixed outlets shall be directed at the windshield <p>The defroster shall be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system shall meet or exceed SAE J382 requirements.</p> <p><u>Cab/Crew Auxiliary Heater</u></p> <p>There shall be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat risers with a dual scroll blower. An aluminum plenum incorporated into the cab structure used to transfer heat to the forward positions.</p> <p><u>Air Conditioning</u></p> <p>A 19.10 cubic inch compressor shall be installed on the engine.</p> <p>A condenser shall be a 59,644 BTU output that meets and exceeds the performance specification shall be mounted on the radiator.</p> <p>The air conditioning system shall be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test shall be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.</p> <p>The evaporator unit shall be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator shall include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.</p> <p>The evaporator unit shall have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.</p> <p>Adjustable air outlets shall be strategically located on the forward plenum cover per the following:</p> <ul style="list-style-type: none"> Four (4) shall be directed towards the seating position on the left side of the cab Four (4) shall be directed towards the seating position on the right side of the cab <p>Adjustable air outlets shall be strategically located on the evaporator cover per the following:</p> <ul style="list-style-type: none"> Five (5) shall be directed towards crew cab area <p>A high efficiency particulate air (HEPA) filter shall be included for the system. Access to the filter cover shall be secured with four (4) screws.</p> <p>The air conditioner refrigerant shall be R-134A and shall be installed by a certified technician.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>Climate Control</u></p> <p>An automotive style controller shall be provided to control the heat and air conditioning system within the cab. The controller shall have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.</p> <p>The system shall control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.</p> <p>The AC system shall be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob shall engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.</p> <p>The system controller shall be located within panel position #12.</p> <p><u>Gravity Drain Tubes</u></p> <p>Two (2) condensate drain tubes shall be provided for the air conditioning evaporator. The drip pan shall have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps shall be provided.</p> <p><u>SUN VISORS</u></p> <p>Two (2) smoked polycarbonate sun visors shall be provided. The sun visors shall be located above the windshield with one (1) mounted on each side of the cab.</p> <p>There shall be a black plastic thumb latch provided to help secure each sun visor in the stowed position.</p> <p><u>GRAB HANDLES</u></p> <p>A black rubber covered grab handle shall be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The grab handles shall be securely mounted to the post area between the door and windshield.</p> <p><u>ENGINE COMPARTMENT LIGHTS</u></p> <p>There shall be one (1) 12 volt DC, 3.00" white LED light(s) with chrome flange kit(s) installed under the cab to be used as engine compartment illumination.</p> <p>These light(s) shall be activated automatically when the cab is raised.</p> <p><u>ACCESS TO ENGINE DIPSTICKS</u></p> <p>For access to the engine oil and transmission fluid dipsticks, there shall be a door on the engine tunnel, inside the crew cab. The door shall be on the rear wall of the engine tunnel, on the vertical surface.</p> <p>The engine oil dipstick shall allow for checking only. The transmission dipstick shall allow for both checking and filling.</p>		

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	Bidder Complies	
	Yes	No
<p>The door shall have a rubber seal for thermal and acoustic insulation. One (1) flush latch shall be provided on the access door.</p> <p><u>SEATING CAPACITY</u></p> <p>The seating capacity in the cab shall be four (4).</p> <p><u>DRIVER SEAT</u></p> <p>A seat shall be provided in the cab for the driver. The seat design shall be a cam action type, with air suspension. For increased convenience, the seat shall include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control shall be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat shall have an adjustable reclining back. The seat back shall be a high back style with side bolster pads for maximum support. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>OFFICER SEAT</u></p> <p>A seat shall be provided in the cab for the passenger. The seat shall be a fixed type with no suspension. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>RADIO COMPARTMENT</u></p> <p>A radio compartment shall be provided under the officer's seat.</p> <p>The inside compartment dimensions shall be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.</p> <p>A drop-down door with a chrome plated lift and turn latch shall be provided for access.</p> <p>The compartment shall be constructed of smooth aluminum and painted to match the cab interior.</p> <p><u>REAR FACING LEFT SIDE CABINET</u></p> <p>A rear facing cabinet shall be provided in the crew cab at the left side outboard position.</p> <p>The cabinet shall be 23.00" wide x 34.00" high x 26.75" deep. The interior door shall be web netting. The netting is to be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing shall be permanently fastened at the bottom side of the cabinet and have spring</p>		

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	Bidder Complies	
	Yes	No
<p>clip and hook fasteners on the opposite side to secure it. The clear door opening shall be 20.50" wide x 31.00" high.</p> <p>The cabinet shall include one (1) infinitely adjustable shelf with a 0.75" flanged down lipped painted to match the cab interior.</p> <p>The cabinet shall include no louvers.</p> <p>The cabinet shall be constructed of smooth aluminum and painted to match the cab interior.</p> <p><u>Cabinet Light</u></p> <p>There shall be LED lighting installed in the cabinet. The lights shall be controlled by a rocker switch on the cabinet exterior.</p> <p><u>REAR FACING RIGHT SIDE CABINET</u></p> <p>A rear facing cabinet shall be provided in the crew cab at the right side outboard position.</p> <p>The cabinet shall be 22.00" wide x 34.00" high x 26.75" deep. The interior door shall be web netting. The netting is to be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing shall be permanently fastened at the bottom side of the cabinet and have spring clip and hook fasteners on the opposite side to secure it. The interior clear door opening shall be 19.50" wide x 31.00" high.</p> <p>The cabinet shall include two (2) infinitely adjustable shelf with a 0.75" flanged down lipped painted to match the cab interior.</p> <p>The cabinet shall include no louvers.</p> <p>The cabinet shall be constructed of smooth aluminum and painted to match the cab interior.</p> <p><u>Cabinet Light</u></p> <p>There shall be LED lighting installed in the cabinet. The lighting shall be controlled by a rocker switch on the front of the cabinet.</p> <p><u>FORWARD FACING CENTER SEATS</u></p> <p>There shall be two (2) forward facing seats provided at the center position in the crew cab with a fifteen (15) inch separation between each seat. For optimal comfort, the seats shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back shall be an SCBA style with 90 degree back. The SCBA cavity shall be adjustable from front to rear in 1.00" increments to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seats shall be furnished with a 3-point, shoulder type seat belt.</p>		

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	Yes	No
<p><u>CREW CAB FORWARD FACING SEAT RISER</u></p> <p>A seat riser compartment shall be provided in the center forward facing position. The riser shall be 50" wide or wider if possible x 24.50" deep.</p> <p>There shall be an access door provided in the front edge of the forward facing seat riser. The door shall be web netting. The netting shall be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing shall be permanently fastened at the bottom side of the cabinet and have spring clip and hook fasteners on the opposite side to secure it.</p> <p><u>SEAT UPHOLSTERY</u></p> <p>All seat upholstery shall be black material.</p> <p><u>AIR BOTTLE HOLDERS</u></p> <p>All SCBA type seats in the cab shall have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket shall include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp shall constrain the SCBA bottle in the seat and shall exceed the NFPA standard of 9G. Bracket designs with manual restraints (belts, straps, buckles) that could be inadvertently left unlocked and allow the SCBA to move freely within the cab during an accident, shall not be acceptable.</p> <p>There shall be a quantity of three (3) SCBA brackets.</p> <p><u>SEAT BELTS</u></p> <p>All cab and tiller cab (if applicable) seating positions shall have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length shall meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.</p> <p>The 3-point shoulder type seat belts shall include height adjustment. This adjustment shall optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p>The 3-point shoulder type belts shall also include a D-loop assembly to the shoulder belt system. This feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.</p> <p>Any flip up seats shall include a 3-point shoulder type belts only.</p> <p>To ensure safe operation, the seats shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.</p>		

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	Yes	No
<p><u>ADDITIONAL STAORAGE</u></p> <p>Manufacturer shall provide options for the storage of EMS glove boxes & a map box with dividers to stow four (4) 2" three-ring within reach of all seat positions and map/book storage within reach of the Officer and Driver</p> <p><u>HELMET STORAGE PROVIDED BY FIRE DEPARTMENT</u></p> <p>NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.</p> <p>There is no helmet storage on the apparatus as manufactured. The fire department shall provide a location for storage of helmets.</p> <p><u>CAB DOME LIGHTS</u></p> <p>There shall be four (4) dual LED dome lights with black bezels provided. Two (2) lights shall be mounted above the inside shoulder of the driver and officer and two (2) lights shall be installed and located, one (1) on each side of the crew cab.</p> <p>The color of the LED's shall be red and white.</p> <p>The white LED's shall be controlled by the door switches and the lens switch.</p> <p>The color LED's shall be controlled by the lens switch.</p> <p>In order to ensure exceptional illumination, each white LED dome light shall provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.</p> <p><u>HAND HELD LIGHT</u></p> <p>There shall be four (4) Streamlight Fire Vulcan LED hand lights provided with a vehicle mount with 12VDC direct wire charging rack and quick release buckle strap mounted on the engine tunnel area. Mounting location to be determined at pre-build meeting.</p> <p>Each light housing shall be orange in color and be provided with a LED and two (2) "ultra bright blue tail light LEDs". The tail light LEDs shall have a dual mode of blinking or steady.</p> <p><u>CAB INSTRUMENTATION</u></p> <p>The cab instrument panel shall be a molded ABS panel and include gauges, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches shall be identified by a label adjacent to each item. Actuation of the headlight switch shall illuminate the labels in low light conditions. Telltale indicator lamps shall not be illuminated unless necessary. The cab instruments and controls shall be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.</p>		

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	Yes	No
<p><u>Gauges</u></p> <p>The gauge panel shall include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:</p> <ul style="list-style-type: none"> • Voltmeter gauge (volts): <ul style="list-style-type: none"> ○ Low volts (11.8 VDC) <ul style="list-style-type: none"> ▪ Amber telltale light on indicator light display with steady tone alarm ○ High volts (15.5 VDC) <ul style="list-style-type: none"> ▪ Amber telltale light on indicator light display with steady tone alarm • Engine Tachometer (RPM) • Speedometer MPH (Major Scale), KM/H (Minor Scale) • Fuel level gauge (Empty - Full in fractions): <ul style="list-style-type: none"> ○ Low fuel (1/8 full) <ul style="list-style-type: none"> ▪ Amber indicator light in gauge dial with steady tone alarm • Engine Oil pressure Gauge (PSI): <ul style="list-style-type: none"> ○ Low oil pressure to activate engine warning lights and alarms <ul style="list-style-type: none"> ▪ Red indicator light in gauge dial with steady tone alarm • Front Air Pressure Gauges (PSI): <ul style="list-style-type: none"> ○ Low air pressure to activate warning lights and alarm <ul style="list-style-type: none"> ▪ Red indicator light in gauge dial with steady tone alarm • Rear Air Pressure Gauges (PSI): <ul style="list-style-type: none"> ○ Low air pressure to activate warning lights and alarm <ul style="list-style-type: none"> ▪ Red indicator light in gauge dial with steady tone alarm • Transmission Oil Temperature Gauge (Fahrenheit): <ul style="list-style-type: none"> ○ High transmission oil temperature activates warning lights and alarm <ul style="list-style-type: none"> ▪ Amber indicator light in gauge dial with steady tone alarm • Engine Coolant Temperature Gauge (Fahrenheit): <ul style="list-style-type: none"> ○ High engine temperature activates an engine warning light and alarms <ul style="list-style-type: none"> ▪ Red indicator light in gauge dial with steady tone alarm • Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions): <ul style="list-style-type: none"> ○ Low fluid (1/8 full) <ul style="list-style-type: none"> ▪ Amber indicator light in gauge dial <p><u>Indicator Lamps</u></p> <p>To promote safety, the following telltale indicator lamps shall be located on the instrument panel in clear view of the driver. The indicator lamps shall be "dead-front" design that is only visible when active. The colored indicator lights shall have descriptive text or symbols.</p> <p>The following amber telltale lamps shall be present:</p> <ul style="list-style-type: none"> • Low coolant • Trac cntl (traction control) (where applicable) • Check engine 		

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<ul style="list-style-type: none"> • Check trans (check transmission) • Air rest (air restriction) • DPF (engine diesel particulate filter regeneration) • HET (engine high exhaust temperature) (where applicable) • ABS (antilock brake system) • MIL (engine emissions system malfunction indicator lamp) (where applicable) • Regen inhibit (engine emissions regeneration inhibit) (where applicable) • Side roll fault (where applicable) • Front air bag fault (where applicable) • Aux brake overheat (auxiliary brake overheat) (where applicable) • The following red telltale lamps shall be present: • Ladder rack down • Parking brake • Stop engine • The following green telltale lamps shall be present: • Left turn • Right turn • Battery on • Ignition • Aux brake (auxiliary brake engaged) (where applicable) • The following blue telltale lamps shall be present: • High beam <p><u>Alarms</u></p> <p>Audible steady tone warning alarm: A steady audible tone alarm shall be provided whenever a warning condition is active.</p> <p><u>Indicator Lamp and Alarm Prove-Out</u></p> <p>A system shall be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms shall perform prove-out for 3 to 5 seconds when the ignition switch is moved to the on position with the battery switch on.</p> <p><u>Control Switches</u></p> <p>For ease of use, the following controls shall be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches shall have backlit labels for low light applications.</p> <p>Headlight/Parking light switch: A three (3)-position maintained rocker switch shall be provided. The first switch position shall deactivate all parking and headlights. The second switch position shall activate the parking lights. The third switch shall activate the headlights.</p> <p>Panel back lighting intensity control switch: A three (3)-position momentary rocker switch shall be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting</p>		

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<p>intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times shall allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.</p> <p>Ignition switch: A three (3)-position maintained/momentary rocker switch shall be provided. The first switch position shall turn off and deactivate vehicle ignition. The second switch position shall activate vehicle ignition and shall perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position shall temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position shall terminate the alarm silence feature and reset function of cab alarm system.</p> <p>Engine start switch: A two (2)-position momentary rocker switch shall be provided. The first switch position is the default switch position. The second switch position shall activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.</p> <p>Hazard switch shall be provided on the instrument panel or on the steering column.</p> <p>Heater and defroster controls.</p> <p>Turn signal arm: A self-canceling turn signal with high beam headlight controls.</p> <p>Windshield wiper control shall have high, low, and intermittent modes.</p> <p>Parking brake control: An air actuated push/pull park brake control.</p> <p>Chassis horn control: Activation of the chassis horn control shall be provided through the center of the steering wheel.</p> <p>High idle engagement switch: A maintained rocker switch with integral indicator lamp shall be provided. The switch shall activate and deactivate the high idle function. The "OK To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch shall indicate when the high idle function is engaged.</p> <p>"OK To Engage High Idle" indicator lamp: A green indicator light shall be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.</p> <p>Emergency switching shall be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.</p>		

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	Yes	No
<p>An additional "Emergency Master" button shall be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.</p> <p><u>Custom Switch Panels</u></p> <p>The design of cab instrumentation shall allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There shall be positions for up to four (4) switch panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions. Cab Switch layout shall be discussed at the pre-build meeting.</p> <p><u>Diagnostic Panel</u></p> <p>A diagnostic panel shall be provided and accessible while standing on the ground. The panel shall be located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow ABS systems to provide blink codes should a problem exist.</p> <p>The diagnostic panel shall include the following:</p> <ul style="list-style-type: none"> • ENGINE/TRANSMISSION/ABS J1939 Diagnostic Port • ABS Diagnostic Switch and Indicator - The switch and amber indicator shall allow access to diagnostic mode and display of standard ABS system fault blink codes that may be generated by the ABS system • DPF REGEN (Diesel Particulate Filter Regeneration Switch) (where applicable) shall be provided to request regeneration of the engine emission system. An amber indicator shall be provided on top of the switch that shall illuminate in a "CHECK ENGINE" condition • REGEN INHIBIT (Diesel Particulate Filter Regeneration Inhibit Switch) (where applicable) shall be provided that shall request that regeneration be temporarily prevented. A green indicator shall be provided on top of the Regen Inhibit switch that shall illuminate when the Regen Inhibit feature is active. Regen Inhibit shall be disabled upon cycling of the ignition switch to the off state. <p><u>AIR RESTRICTION INDICATOR</u></p> <p>A high air restriction warning indicator light (electronic) shall be provided.</p> <p><u>"DO NOT MOVE APPARATUS" INDICATOR</u></p> <p>A flashing red indicator light, located in the driving compartment, shall be illuminated automatically per the current NFPA requirements. The light shall be labeled "Do Not Move Apparatus If Light Is On."</p> <p>The same circuit that activates the Do Not Move Apparatus indicator shall activate a pulsing alarm when the parking brake is released.</p>		

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	Yes	No
<p><u>SWITCH PANELS</u></p> <p>The built-in switch panels shall be located in the lower console or overhead console of the cab. Switches shall be rocker type with an indicator light, of which is an integral part of the switch.</p> <p><u>WIPER CONTROL</u></p> <p>Wiper control shall consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.</p> <p><u>SPARE CIRCUIT</u></p> <p>There shall be one (1) dual USB fast charge socket mounts installed on the apparatus.</p> <p>The above wires shall have the following features:</p> <ul style="list-style-type: none"> • The positive wire shall be connected directly to the battery power. • The negative wire shall be connected to ground. • Wires shall be protected to 4.8 amps at 12 volts DC. • The USB socket mount shall be To be determined at pre-construction meeting at factory. • Termination shall be a dual USB charger socket. • Wires shall be sized to 125% of the protection. <p>This circuit(s) may be load managed when the parking brake is applied.</p> <p><u>SPARE CIRCUIT</u></p> <p>There shall be two (2) pair of wires, including a positive and a negative, installed on the apparatus.</p> <p>The above wires shall have the following features:</p> <ul style="list-style-type: none"> • The positive wire shall be connected directly to the battery power • The negative wire shall be connected to ground • Wires shall be protected to 15 amps at 12 volts DC • Power and ground shall terminate officer side dash area • Termination shall be with heat shrinkable butt splicing • Wires shall be sized to 125 percent of the protection <p>The circuit(s) may be load managed when the parking brake is set.</p> <p><u>SPARE CIRCUIT</u></p> <p>There shall be four (4) pair of wires, including a positive and a negative, installed on the apparatus.</p> <p>The above wires shall have the following features:</p> <ul style="list-style-type: none"> • The positive wire shall be connected directly to the battery power 		

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	Yes	No
<ul style="list-style-type: none"> • The negative wire shall be connected to ground • Wires shall be protected to 15 amps at 12 volts DC • Power and ground shall terminate mid cab for placement of 4 Gas Monitor, TIC Camera and Portable Radio Chargers. Exact Location to be determined at prebuild trip. • Termination shall be with heat shrinkable butt splicing • Wires shall be sized to 125 percent of the protection <p>The circuit(s) may be load managed when the parking brake is set.</p> <p><u>CHARGE GUARD</u></p> <p>Havis Charge Guard shall be installed and wired to the circuits designated for the following equipment:</p> <ul style="list-style-type: none"> • Portable Radio Chargers x 2 • TIC • 4 Gas Meter • Handlights <p><u>INFORMATION CENTER</u></p> <p>There shall be a LCD display integral to the cab gauge panel provided that shall display the following information:</p> <ul style="list-style-type: none"> • Total distance • Trip distance • Total hours • Trip hours • PTO "A" hours • PTO "B" hours. <p><u>VEHICLE DATA RECORDER</u></p> <p>There shall be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.</p> <p>The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.</p> <p>The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:</p> <ul style="list-style-type: none"> • Vehicle Speed - MPH • Acceleration - MPH/sec 		

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	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • Deceleration - MPH/sec • Engine Speed - RPM • Engine Throttle Position - % of Full Throttle • ABS Event - On/Off • Seat Occupied Status - Yes/No by Position • Seat Belt Buckled Status - Yes/No by Position • Master Optical Warning Device Switch - On/Off • Time - 24 Hour Time • Date - Year/Month/Day <p><u>Seat Belt Monitoring System</u></p> <p>A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:</p> <ul style="list-style-type: none"> • Seat Occupied & Buckled = Green LED indicator illuminated • Seat Occupied & Unbuckled = Red LED indicator with audible alarm • No Occupant & Buckled = Red LED indicator with audible alarm • No Occupant & Unbuckled = No indicator and no alarm <p>The SBMS shall include an audible alarm that shall warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.</p> <p><u>INTERCOM SYSTEM</u></p> <p>There shall be a FireCom intercom system installed, location to be determined at preconstruction meeting, in the cab. The front panel shall have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices.</p> <p>There shall be one (1) radio listen only / transmit control with select, monitor, receive, and transmit indicators. There shall be one (1) auxiliary audio input with select, and receive indicators.</p> <p>Headset jacks shall be provided for the driver, officer, and two (2) crew positions located at both forward facing seats.</p> <p>The FireComm System shall include the following components:</p> <ul style="list-style-type: none"> • One (1) 5100D Intercom • Four (4) HM-10 Interior Headset jacks • All Necessary power and station cabling • Four (4) Headsets as below 		

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	Bidder Complies	
	Yes	No
<p><u>RADIO / INTERCOM INTERFACE CABLE</u></p> <p>The apparatus manufacturer shall supply and install the required radio interface cable for a Motorola Mid Power Model XTL-5000 before delivery of the vehicle.</p> <p><u>OVER THE HEAD, RADIO TRANSMIT HEADSET</u></p> <p>There shall be two (2) single ear cup, over the head, radio transmit headset(s) provided driver's seat and officer seat. One shall be FireCom Model UH-51 and one shall be FireCom UH-51S</p> <p>Each headset shall feature:</p> <ul style="list-style-type: none"> • Coiled cord • Noise cancelling electric microphone • Flex boom rotates for left or right dress • Adjustable volume control • Ear seal • Radio Push To Transmit button. Mic is always live for intercom communication <p><u>OVER THE HEAD, INTERCOM ONLY HEADSET</u></p> <p>There shall be two (2) over head, intercom only headset(s) FireCom Model UH-52 provided driver's side outboard front facing seat and passenger's side outboard front facing seat.</p> <p>Each headset shall feature:</p> <ul style="list-style-type: none"> • Coiled cord • Noise cancelling electric microphone • Flex boom rotates for left or right dress • Adjustable volume control • Ear seals with 24 dB noise reduction <p><u>HEADSET HANGERS</u></p> <p>There shall be four (4) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard rear facing seat and passenger's side outboard rear facing seat. The hanger(s) shall meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.</p> <p><u>RADIO ANTENNA MOUNT</u></p> <p>There shall be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the overhead switch area. A weatherproof cap shall be installed on the mount.</p> <p><u>RADIO ANTENNA MOUNT</u></p> <p>There shall be one (1) 0-6000MHz NMO style antenna mounting base(s) with weatherproof cap(s) and 17 feet of RG58A/U dual shield coax located on the cab roof center cab roof. The cable(s) shall be routed To be determined at preconstruction.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>ELECTRICAL POWER CONTROL SYSTEM</u></p> <p>A compartment shall be provided in or under the cab to house the vehicle's electrical power and signal circuit protection and control components. The power and signal protection and control compartment shall contain circuit protection devices and power control devices. Power and signal protection and control components shall be protected against corrosion, excessive heat, excessive vibration, physical damage and water spray.</p> <p>Serviceable components shall be readily accessible.</p> <p>Circuit protection devices, which conform to SAE standard, shall be utilized to protect each circuit. All circuit protection devices shall be sized to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers shall be Type-I automatic reset (continuously resetting) and conform to SAE J553 or J258. When required, automotive type fuses conforming to SAE J554, J1284, J1888 or J2077 shall be utilized to protect electronic equipment.</p> <p>Power control relays and solenoids shall have a direct current (dc) rating of 125 percent of the maximum current for which the circuit is protected.</p> <p>Visual status indicators shall be supplied to identify control safety interlocks and vehicle status. In addition to visual status indicators, audible alarms designed to provide early warning of problems before they become critical shall be used.</p> <p><u>Voltage Monitor System</u></p> <p>A voltage monitor system shall be provided to indicate the status of each battery system connected to the vehicle's electrical load. The monitor system shall provide visual and audio warning when the system voltage is above or below optimum levels.</p> <p><u>Power and Ground Studs</u></p> <p>Spare circuits shall be provided in the primary distribution center for two-way radio equipment.</p> <p>The spare circuits shall consist of the following:</p> <ul style="list-style-type: none"> • One (1) 12-volt DC, 30 amp battery direct spare • One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center <p><u>EMI/RFI Protection</u></p> <p>The electrical system proposed shall include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components shall be used to ensure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.</p> <p>The apparatus proposed shall have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor shall be able to demonstrate the EMI</p>		

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	Bidder Complies	
	Yes	No
<p>and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.</p> <p>EMI/RFI susceptibility shall be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. The electrical system shall be designed for full compatibility with low level control signals and high powered two-way radio communication systems. Harness and cable routing shall be given careful attention to minimize the potential for conducting and radiated EMI-RFI susceptibility.</p> <p><u>ELECTRICAL</u></p> <p>All 12-volt electrical equipment installed by the apparatus manufacturer shall conform to modern automotive practices. All wiring shall be high temperature crosslink type. Wiring shall be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers shall be provided which conform to SAE Standards. Wiring shall be color, function and number coded. Function and number codes shall be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.</p> <p>Electrical wiring and equipment shall be installed utilizing the following guidelines:</p> <ol style="list-style-type: none"> 1. All holes made in the roof shall be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof. 2. Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body. 3. Electrical components designed to be removed for maintenance shall not be fastened with nuts and bolts. Metal screws shall be used in mounting these devices. Also a coil of wire shall be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work. 4. Corrosion preventative compound shall be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections shall require this compound IN the plug to prevent corrosion and for easy separation (of the plug). 5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area. 6. All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal. <p>All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, shall be furnished. Rear identification lights shall be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads shall be protected from damage by installing a false bulkhead inside the rear compartments.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p>An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.</p> <p>The results of the tests shall be recorded and provided to the purchaser at time of delivery.</p> <p><u>BATTERY SYSTEM</u></p> <p>There shall be four (4) 12 volt batteries that include the following features shall be provided:</p> <ul style="list-style-type: none"> • 950 CCA, cold cranking amps • 190 amp reserve capacity • High cycle • Group 31 • Rating of 3800 CCA at 0 degrees Fahrenheit • 760 minutes of reserve capacity • Threaded stainless steel studs <p>Each battery case shall be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover shall be manifold vented with a central venting location to allow a 45 degree tilt capacity.</p> <p>The inside of each battery shall consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.</p> <p><u>BATTERY SYSTEM</u></p> <p>There shall be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.</p> <p><u>MASTER BATTERY SWITCH</u></p> <p>There shall be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.</p> <p>An indicator light shall be provided on the instrument panel to notify the driver of the status of the battery system.</p> <p><u>BATTERY COMPARTMENTS</u></p> <p>Batteries shall be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab.</p> <p>Heavy-duty battery cables shall be used to provide maximum power to the electrical system. Cables shall be color coded.</p> <p>Battery terminal connections shall be coated with anti-corrosion compound. Battery solenoid terminal connections shall be encapsulated with semi-permanent rubberized compound.</p>		

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	Yes	No
<p><u>JUMPER STUDS</u></p> <p>One (1) set of battery jumper studs with plastic color-coded covers shall be included on the battery compartments.</p> <p><u>BATTERY CHARGER</u></p> <p>There shall be a battery charger with controller provided.</p> <p>The battery charger shall be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.</p> <p>There shall be a remote indicator included.</p> <p>Battery charger shall be located in the cab behind the driver's seat.</p> <p>The battery charger indicator shall be located behind the driver's door on the outside of the cab.</p> <p><u>AUTO EJECT FOR SHORELINE</u></p> <p>There shall be one (1) 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.</p> <p>The shoreline inlet(s) shall include red weatherproof flip up cover(s).</p> <p>There shall be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.</p> <p>The shoreline(s) shall be connected to the battery charger.</p> <p>There shall be a mating connector body supplied with the loose equipment.</p> <p>There shall be a label installed near the inlet(s) that state the following:</p> <ul style="list-style-type: none"> • Line Voltage • Current Rating (amps) • Phase • Frequency <p>The shoreline receptacle shall be located in the driver side lower step well of cab.</p> <p><u>ALTERNATOR</u></p> <p>An alternator shall be provided. It shall have a rated output current of 350 amp as measured by SAE method J56. The alternator shall feature an integral, self diagnostic regulator and rectifier. The alternator shall be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.</p>		

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	Yes	No
<p><u>ELECTRONIC LOAD MANAGEMENT</u></p> <p>An electronic load management (ELM) system shall be provided that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.</p> <p>The ELM shall monitor the vehicle's voltage while at the scene (parking brake applied). It shall sequentially shut down individual electrical loads when the system voltage drops below a preset value. Two (2) separate electrical loads shall be controlled by the load manager. The ELM shall sequentially re-energize electrical loads as the system voltage recovers.</p> <p><u>HEADLIGHTS</u></p> <p>There shall be four (4) 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:</p> <ul style="list-style-type: none"> • the outside light on each side shall contain a low beam module • the inside light on each side shall contain a high beam module • the headlight to include chrome bezels <p>The low beam lights shall be activated when the headlight switch is on.</p> <p>The high beam and low beam lights shall be activated when the headlight switch and the high beam switch is activated.</p> <p><u>DIRECTIONAL LIGHTS</u></p> <p>There shall be two (2) amber LED combination directional/marker lights provided. The lights shall be located on the outside cab corners, next to the warning lights.</p> <p>The lens color(s) to be the same as the LEDs.</p> <p><u>INTERMEDIATE LIGHT</u></p> <p>There shall be two (2) amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light shall double as a turn signal and marker light.</p> <p><u>CAB CLEARANCE/MARKER/ID LIGHTS</u></p> <p>There shall be seven (7) amber LED lights provided per the following:</p> <ul style="list-style-type: none"> • Three (3) amber LED identification lights shall be installed in the center of the cab above the windshield. • Two (2) amber LED clearance lights shall be installed, one (1) on each outboard side of the cab above the windshield as close to the outside of the apparatus as practical. • Two (2) amber LED clearance lights shall be installed, one (1) on each side of the cab as high and far forward as practical. 		

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	Bidder Complies	
	Yes	No
<p><u>FRONT CAB SIDE CLEARANCE/MARKER LIGHTS</u></p> <p>There shall be two (2) amber LED lights installed to the outside of the chrome wrap around bezel, one (1) on each side of the cab.</p> <p>The lights shall activate as additional directional lights with the corresponding directional circuit.</p> <p><u>REAR CLEARANCE/MARKER/ID LIGHTING</u></p> <p>There shall be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following:</p> <ul style="list-style-type: none"> • As close as practical to the vertical centerline • Centers spaced not less than 6.00" or more than 12.00" apart • Red in color • All at the same height <p>There shall be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:</p> <ul style="list-style-type: none"> • To indicate the overall width of the vehicle • One (1) each side of the vertical centerline • As near the top as practical • Red in color • To be visible from the rear • All at the same height <p>There shall be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:</p> <ul style="list-style-type: none"> • To indicate the overall length of the vehicle • One (1) each side of the vertical centerline • As near the top as practical • Red in color • To be visible from the side • All at the same height <p>There shall be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>There shall be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>Per FMVSS 108 and CMVSS 108 requirements.</p>		

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	Bidder Complies	
	Yes	No
<p><u>REAR FMVSS LIGHTING</u></p> <p>The rear stop/tail and directional LED lighting shall consist of the following:</p> <ul style="list-style-type: none"> • Two (2) red LED stop/tail lights • Two (2) amber LED arrow turn lights <p>The lights shall be provided with color lenses.</p> <p>The lights shall be mounted in a polished combination housing.</p> <p>There shall be two (2) LED backup lights provided in the tail light housing.</p> <p><u>LICENSE PLATE BRACKET</u></p> <p>There shall be one (1) license plate bracket located below the tailboard on a removable bolt-on bracket located Left Side.</p> <p>A white LED light shall illuminate the license plate. A stainless steel light shield shall be provided over the light that shall direct illumination downward, preventing white light to the rear.</p> <p><u>LIGHTING BEZEL</u></p> <p>There shall be two (2) four (4) place chromed ABS housings provided for the rear stop/tail, directional, back up, scene lights or warning lights.</p> <p><u>BACK-UP ALARM</u></p> <p>A solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided. The device shall sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.</p> <p><u>CAB PERIMETER SCENE LIGHTS</u></p> <p>There shall be four (4) 20.00" white LED strip lights provided, one (1) for each cab door.</p> <p>These lights shall be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.</p> <p><u>PUMP HOUSE PERIMETER LIGHTS</u></p> <p>There shall be two (2) 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.</p> <p>If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the light shall be installed.</p> <p>The lights shall be controlled by the same means as the body perimeter lights.</p> <p><u>BODY PERIMETER SCENE LIGHTS</u></p> <p>There shall be two (2) 350 lumens, 20.00" long, white LED's, 12 volt DC lights provided at the rear step area of the body, one (1) each side shining to the rear.</p>		

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	Bidder Complies	
	Yes	No
<p>The perimeter scene lights shall be activated when the parking brake is applied.</p> <p><u>STEP LIGHTS</u></p> <p>Four (4) white LED step lights shall be provided. One (1) step light shall be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.</p> <p>In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.</p> <p>These step lights shall be actuated with the pump panel light switch.</p> <p>All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be one (1) HiViz Model FT-B-46-*-*; 2.56" high x 46.00" long x 2.45" deep 13,306 effective lumens 12 volt DC light with white LEDs provided as far forward as possible on the front cab roof centered. The LEDs shall be configured with a combination of flood and spot optics.</p> <p>The painted parts of the light housing and brackets to be black.</p> <p>The scene LEDs shall be activated by a switch in a center console switch panel between the driver and officer. Placement to be determined at prebuild meeting.</p> <p>The white LEDs may be load managed when the parking brake is applied.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be two (2) HiViz Model FT-MB-24-*-*; 2.06" high x 31.11" long x 2.45" deep, 12,672 raw lumens, 12-volt DC light(s) with white LEDs flood optics and end brackets installed on the cab over the drivers' side and passenger side crewcab door.</p> <p>The painted parts of the light housing and brackets to be black.</p> <p>The light(s) shall be activated by a switch in a center console switch panel between the driver and officer. Placement to be determined at prebuild meeting.</p> <p>A Second switch shall be provided on the pump panel for each light.</p> <p>The light(s) may be load managed when the parking brake is applied.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall one (1) 13,306 lumens 2.56" high x 46.00" long x 2.45" deep 12 volt DC light(s) with white LEDs and with a combination of spot, and flood optics installed on the apparatus located, Center of the upper body side sheet just below the hosebed flange.</p>		

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	Bidder Complies	
	Yes	No
<p>The painted parts of the light housing and brackets to be black.</p> <p>The light(s) shall be activated by a switch in a center console switch panel between the driver and officer. Placement to be determined at prebuild meeting.</p> <p>A Second switch shall be provided on the pump panel for each light.</p> <p>The light(s) may be load managed when the parking brake is applied.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall one (1) 13,306 lumens 2.56" high x 46.00" long x 2.45" deep 12 volt DC light(s) with white LEDs and with a combination of spot, and flood optics installed on the apparatus located, Passenger side upper center of the body side sheet just below the hosebed flange.</p> <p>The painted parts of the light housing and brackets to be black.</p> <p>The light(s) shall be activated by a switch in a center console switch panel between the driver and officer. Placement to be determined at prebuild meeting.</p> <p>A Second switch shall be provided on the pump panel for each light.</p> <p>The light(s) may be load managed when the parking brake is applied.</p> <p><u>HOSE BED LIGHTS</u></p> <p>There shall be white 12 volt DC LED light strips with stainless steel protective cover, provided to light the hose bed area. Hose Bed lights shall meet the photometric levels listed in NFPA 1901 for Hose Bed lighting requirements.</p> <ul style="list-style-type: none"> • Light strip(s) shall be installed along the upper edge of the left side of the hose bed. • Light strip(s) shall be installed along the upper edge of the right side of the hose bed. <p>The lights shall be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.</p> <p><u>REAR SCENE LIGHTS</u></p> <p>There shall be one (1) 8.50" high x 10.51" long x 2.75" deep 12,290 measured lumens light with white LEDs and trim installed at the rear of the apparatus, upper rear body bulkhead on the drivers side.</p> <p>The lights shall be controlled by a cup switch at the driver's side rear bulkhead.</p> <p><u>WALKING SURFACE LIGHT</u></p> <p>There shall be 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.</p> <p>The light(s) shall be activated when the body step lights are on.</p>		

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	Bidder Complies	
	Yes	No
<p><u>WATER TANK</u></p> <p>Booster tank shall have a capacity of 750 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.</p> <p>The tank shall be stepped in design to allow for a low hosebed.</p> <p>Tank joints and seams shall be nitrogen welded inside and out.</p> <p>Tank shall be baffled in accordance with NFPA Bulletin 1901 requirements.</p> <p>Baffles shall have vent openings at both the top and bottom to permit movement of air and water between compartments.</p> <p>Longitudinal partitions shall be constructed of .38" polypropylene plastic and shall extend from the bottom of the tank through the top cover to allow for positive welding.</p> <p>Transverse partitions shall extend from 4.00" off the bottom of the tank to the underside of the top cover.</p> <p>All partitions shall interlock and shall be welded to the tank bottom and sides.</p> <p>Tank top shall be constructed of .50" polypropylene. It shall be recessed .38" and shall be welded to the tank sides and the longitudinal partitions.</p> <p>Tank top shall be sufficiently supported to keep it rigid during fast filling conditions.</p> <p>Construction shall include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels shall be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.</p> <p>A sump that will be sized dependent on the tank to pump plumbing shall be provided at the bottom of the water tank.</p> <p>Sump shall include a drain plug and the tank outlet.</p> <p>Tank shall be installed in a fabricated cradle assembly constructed of structural steel.</p> <p>Sufficient crossmembers shall be provided to properly support bottom of tank. Crossmembers shall be constructed of steel bar channel or rectangular tubing.</p> <p>Tank shall "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, shall be placed on all horizontal surfaces that the tank rests on.</p> <p>Stops or other provision shall be provided to prevent an empty tank from bouncing excessively while moving vehicle.</p> <p>Mounting system shall be approved by the tank manufacturer.</p>		

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	Yes	No
<p>Fill tower shall be constructed of .50" polypropylene and shall be a minimum of 8.00" wide x 14.00" long.</p> <p>Fill tower shall be furnished with a .25" thick polypropylene screen and a hinged cover.</p> <p>An overflow pipe, constructed of 4.00" schedule 40 polypropylene, shall be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p> <p><u>TANK CRADLE</u></p> <p>The water tank shall be installed in a fabricated cradle assembly constructed of stainless steel.</p> <p>Sufficient crossmembers shall be provided to properly support bottom of tank. Crossmembers shall be constructed of stainless steel bar channel or rectangular tubing.</p> <p><u>WATER TANK RESTRAINT</u></p> <p>A heavy-duty water tank restraint shall be provided.</p> <p><u>HOSE BED</u></p> <p>The hose bed shall be fabricated of 0.125"-5052 aluminum with a nominal 38,000 psi tensile strength.</p> <p>The hose bed shall be as low as practical but no higher than 5'6" from ground.</p> <p>Upper and rear edges of side panels shall have a double break for rigidity, a split tube finish shall not be acceptable.</p> <p>The upper inside area of the beavertails shall be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.</p> <p>Flooring of the hose bed shall be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats shall be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.</p> <p>A cross divider shall be provided at the front of the hose bed before the tank transitions from the lower section to the upper section. The divider shall run from the top of the side sheet down below the hose bed grating.</p> <p>The hose bed compartment shall have a minimum width of 70".</p> <p><i>The hosebed shall have the capacity to carry the following hose:</i></p> <p>1,00 feet of 5" large diameter supply hose coupled 5" locking Storz</p> <p>400 feet of 3" double jacketed fire hose (static lay)</p> <p>(2) 600 feet of 2.50" double jacketed fire hose with 100 feet of 1.75" double jacketed fire hose (static lay)</p>		

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	Bidder Complies	
	Yes	No
<p><u>HOSE BED DIVIDER</u></p> <p>Three (3) adjustable hosebed dividers shall be furnished for separating hose.</p> <p>Each divider shall be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge.</p> <p>Divider shall be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.</p> <p>Divider shall be held in place by tightening bolts, at each end.</p> <p>Acorn nuts shall be installed on all bolts in the hose bed which have exposed threads.</p> <p><u>HOSEBED HOSE RESTRAINT</u></p> <p>A red hosebed cover shall be furnished with awning rail (aluminum retainer) fasteners at the front and velcro with jacket snaps in each corner fasteners on the sides.</p> <p>At the rear of the vinyl top cover shall be 2.00" red nylon webbing with a 1.50" x 4.00" box pattern. Web straps shall loop through the footman loops located on the rear body sheet below the hosebed. The straps shall be connected at the bottom with seat belt buckle fasteners.</p> <p><u>RUNNING BOARDS</u></p> <p>Running boards shall be fabricated of .125" bright aluminum treadplate.</p> <p>Each running board shall be supported by a welded 2.00" square tubing and channel assembly, which shall be bolted to the pump compartment substructure.</p> <p>Running boards shall be 14.75" deep and spaced .50" away from the pump panel. The front and rear outside corner of the running board shall be finished with a 45 degree corner where it lines up with the body.</p> <p>A splash guard shall be provided above the running board treadplate.</p> <p><u>TAILBOARD</u></p> <p>The tailboard shall also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.</p> <p>The tailboard area shall be 16.00" deep and full width of the body. The outboard sides of the tailboard shall be angled at 45 degrees beginning at the point where the body meets the tailboard at the outboard edge angling rearward to the rear edge of the tailboard.</p> <p>The exterior side shall be flanged down and in for increased rigidity of tailboard structure.</p> <p><u>REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL</u></p> <p>The rear facing surfaces of the center rear wall shall be smooth aluminum.</p> <p>The bulkheads, the surface to the rear of the side body compartments, shall be smooth and the same material as the body.</p>		

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	Bidder Complies	
	Yes	No
<p>The rear wall shall be flush.</p> <p><u>TOW BAR</u></p> <p>A tow bar shall be installed under the tailboard at center of truck.</p> <p>Tow bar shall be fabricated of 1.00" CRS bar rolled into a 3.00" radius.</p> <p>Tow bar assembly shall be constructed of .38" structural angle. When force is applied to the bar, it shall be transmitted to the frame rail.</p> <p>Tow bar assembly shall be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.</p> <p>Tow bar design shall have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.</p> <p><u>RUNNING BOARD HOSE RESTRAINT</u></p> <p>A pair of 2.00" wide black nylon straps with Velcro fasteners shall be provided for each hose tray to secure the hose during travel. There shall be Two (2) hose trays located one (1) in each side running board.</p> <p><u>HOSE TRAY</u></p> <p>Two (2) hose trays shall be made free floating one (1) in each side running board.</p> <p>The tray(s) shall be flanged and drop in from the top. The ends shall be tapered at the front and rear towards the center. No fasteners shall be used to secure the tray(s).</p> <p>Capacity of the tray shall be 50' of 5" LDH flat loaded on each side.</p> <p>Rubber matting shall be installed on the floor of the tray to provide proper ventilation.</p> <p><u>COMPARTMENTATION</u></p> <p>Body and compartments shall be fabricated of .125", 5052-H32 aluminum.</p> <p>Side compartments shall be an integral assembly with the rear fenders.</p> <p>Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.</p> <p>Side compartment flooring shall be of the sweep out design with the floor higher than the compartment door lip.</p> <p>The side compartment door opening shall be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.</p> <p>Drip protection shall be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.</p>		

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	Yes	No
<p>The top of the compartment shall be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers shall have the corners welded.</p> <p>Side compartment covers shall be separate from the compartment tops.</p> <p>Front facing compartment walls shall be covered with bright aluminum treadplate.</p> <p>All screws and bolts which protrude into a compartment shall have acorn nuts on the ends to prevent injury.</p> <p><u>UNDERBODY SUPPORT SYSTEM</u></p> <p>Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load shall be provided.</p> <p>The backbone of the support system shall be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.</p> <p>The support system shall include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.</p> <p>Attached to the bottom of the steel vertical angles shall be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.</p> <p>A steel frame shall be mounted on the top of these supports to create a floating substructure which shall result in a 500 lb equipment support rating per lower compartment.</p> <p>The floating substructure shall be separated from the horizontal members with neoprene elastomer isolators. These isolators shall reduce the natural flex stress of the chassis from being transmitted to the body.</p> <p>Isolators shall have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.</p> <p>The neoprene isolators shall be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.</p> <p>A design with body compartments hanging on the chassis in an unsupported fashion shall not be acceptable.</p> <p><u>AGGRESSIVE WALKING SURFACE</u></p> <p>All exterior surfaces designated as stepping, standing, and walking areas shall comply with the required average slip resistance of the current NFPA standards.</p> <p><u>LOUVERS</u></p> <p>Louvers shall be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers</p>		

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	Bidder Complies	
	Yes	No
<p>are provided, they shall be formed into the metal and not added to the compartment as a separate plate.</p> <p><u>LEFT SIDE COMPARTMENTATION</u></p> <p>The left side compartmentation shall consist of three lap door compartments.</p> <p>A full height, reversed vertically hinged, single door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be at least 30" wide x 60" high x 25" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion.</p> <p>A horizontally hinged, single lift-up door compartment over the rear wheels shall be provided. The interior dimensions of this compartment shall be 60" wide x 30" high x 12.00" deep.</p> <p>A full height, vertically hinged, double door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 45" wide x 60" high x 25" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion.</p> <p>The interior height of the compartments shall be measured from the compartment floor to the ceiling. The depth of the compartments shall be measured from the back wall to the inside of the door frame.</p> <p>Closing of the doors shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p>The vertically hinged doors shall be furnished with a positive door holder.</p> <p>The lift-up door shall be furnished with two gas-charged cylinders to assist in the opening of the door and to maintain the door in an open position. There shall be a field adjustable, three-position bracket mounted on the vertical side door opening that shall allow the door to be held open at 87°, 90°, or 93°.</p> <p><u>RIGHT SIDE COMPARTMENTATION</u></p> <p>The right side compartmentation shall consist of two lap door compartments.</p> <p>A vertically hinged, single door compartment ahead of the rear wheels shall be provided. The interior dimensions of this compartment shall be 33" wide x 30" high x 25" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion.</p> <p>A vertically hinged, double door compartment behind the rear wheels shall be provided. The interior dimensions of this compartment shall be 45" wide x 30" high x 12.00" deep.</p> <p>The interior height of the compartments shall be measured from the compartment floor to the ceiling. The depth of the compartments shall be measured from the back wall to the inside of the door frame.</p>		

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	Yes	No
<p>Closing of the doors shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p>The vertically hinged doors shall be furnished with a positive door holder.</p> <p><u>SIDE COMPARTMENT DOORS</u></p> <p>All hinged compartment doors shall be lap style with double panel construction and shall be a minimum of 1.50" thick. To provide additional door strength a "C" section reinforcement shall be installed between the outer and interior panels.</p> <p>Doors shall be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core shall be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.</p> <p>All compartment doors shall have polished stainless steel continuous hinge with a pin diameter of .25" that is bolted or screwed on with stainless steel fasteners. (Hinges which are welded on shall not be acceptable.)</p> <p>All door locking mechanisms shall be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.</p> <p>Doors shall be latched with recessed, polished stainless steel "D" ring handles and FMVSS approved door locking mechanisms.</p> <p>To prevent corrosion caused by dissimilar metals, compartment door handles shall not be attached to outer door panel with screws. A rubber gasket shall be provided between the "D" ring handle and the door.</p> <p><u>REAR COMPARTMENTATION</u></p> <p>A vertically hinged, double door compartment above the rear tailboard shall be provided.</p> <p>The interior dimensions of this compartment shall be 40.00" wide x 30" high x 25" deep. The interior height of the compartments shall be measured from the compartment floor to the ceiling. The depth of the compartments shall be measured from the back wall to the inside of the door frame.</p> <p>A louvered, removable access panel shall be furnished on the back wall of the compartment.</p> <p>The rear compartment shall be open into the rear side compartments.</p> <p>Closing of the door shall not require releasing, unlocking, or unlatching any mechanism and shall easily be accomplished with one hand.</p> <p>Each of the vertically hinged compartment doors shall be provided with a positive door holder.</p>		

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<p><u>REAR COMPARTMENT DOORS</u></p> <p>All hinged compartment doors shall be lap style with double panel construction and shall be a minimum of 1.50" thick. To provide additional door strength, a "C" section reinforcement shall be installed between the outer and interior panels.</p> <p>Doors shall be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core shall be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.</p> <p>All compartment doors shall have polished stainless steel continuous hinge with a pin diameter of .25", that is bolted or screwed on with stainless steel fasteners. (Hinges which are welded on shall not be acceptable.) A strip of dielectric isolation tape shall be provided between the hinge and door jamb.</p> <p>All door lock mechanisms shall be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.</p> <p>Doors shall be latched with recessed, polished stainless steel "D" ring handles and FMVSS approved locks.</p> <p>To prevent corrosion caused by dissimilar metals, compartment door handles shall not be attached to outer door panel with screws. A rubber gasket shall be provided between the "D" ring handle and the door.</p> <p><u>SCUFFPLATE</u></p> <p>There shall be 6.00" high tread plate scuffplates mounted in each of the cab and crew cab step wells. Each scuffplate shall be mounted at the bottom of the stepwell to prevent paint damage to the vertical riser.</p> <p><u>SCUFFPLATE</u></p> <p>There shall be four (4) polished stainless steel scuffplate(s) provided and mounted (2) on the drivers side and (2) on the passenger side upper body side sheet to protect the body from hard suction to protect the paint finish. Each to be as large as possible in size.</p> <p><u>REVERSE HINGED DOOR</u></p> <p>The one (1) compartment door, located Compartment LS 3, shall have the hinge at the rear of the door.</p> <p><u>COMPARTMENT LIGHTING</u></p> <p>There shall be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips shall be centered vertically along each side of the door framing. There shall be two (2) light strips per compartment. The dual light strips shall be in all body compartment(s).</p>		

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	Yes	No
<p>Any remaining compartments without light strips shall have a 6.00" diameter light. Each light shall have a number 1076 one filament, two wire bulb.</p> <p>Opening the compartment door shall automatically turn the compartment lighting on.</p> <p><u>MOUNTING TRACKS</u></p> <p>There shall be five (5) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS2 and B1. These tracks shall be installed vertically to support the adjustable shelf(s), and shall be full height of the compartment. The tracks shall be painted to match the compartment interior.</p> <p>There shall be one (1) horizontal track spanning the width of the compartment in LS1, located approximately 6" from the top ceiling of the compartment. This will be to hang three (3) bundles of 2.5" double jacketed hose.</p> <p>Three (3) additional sets of tracks for equipment mounting shall be provided. Location to be determined at pre-build meeting.</p> <p><u>PEG BOARDS</u></p> <p>Three (3) peg boards for tool mounting shall be provided. Location to be determined at pre-build meeting.</p> <p><u>ADJUSTABLE SHELVES</u></p> <p>There shall be five (5) shelves with a capacity of 500 lb provided. The shelf construction shall consist of .188" aluminum with 2.00" sides. Each shelf shall be painted spatter gray. Each shelf shall be infinitely adjustable by means of a threaded fastener, which slides in a track.</p> <p>The shelves shall be held in place by .12" thick stamped plated brackets and bolts.</p> <p>The location shall be To be determined.</p> <p><u>RUB RAIL</u></p> <p>Bottom edge of the side and rear of the body compartments shall be trimmed with a Black Poly rub rail.</p> <p>Trim shall be 2" high.</p> <p>The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.</p> <p><u>BODY FENDER CROWNS</u></p> <p>Black rubber fender crowns shall be provided around the rear wheel openings.</p> <p><u>BODY FENDER LINER</u></p> <p>A unpainted brushed stainless fender liner shall be provided. The liners shall be removable to aid in the maintenance of rear suspension components.</p>		

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	Yes	No
<p><u>HARD SUCTION HOSE PROVIDED BY DEALER</u></p> <p>NFPA 1901, 2016 edition, section 5.8.2 requires a minimum of 20 ft of suction hose or 15 ft of supply hose.</p> <p>Hose is not on the apparatus as manufactured. The dealer shall provide suction or supply hose.</p> <p>There shall be Two (2) lengths of 10' sections long x 6.00" diameter hose provided and equipped with a LH Female & RL Male NH Thread coupling on one and RL Male NH tread and a 5 inch Storz Suction connection on the other, provided on the ends. The brand shall be Snap-Tite Maxi-Flex.</p> <p><u>HOSE TROUGH</u></p> <p>A quantity of one (1) hard suction hose trough(s) shall be compartment top mounted on a bracket, located on the left side.</p> <p>Trough(s) shall be constructed of aluminum painted job color.</p> <p>The hose(s) shall be held in place by chrome plated, quarter turn, spring loaded clamps.</p> <p>A tray with Velcro® strap shall be provided at the rear of the trough for storage of a Kochek strainer.</p> <p><u>HARD SUCTION HOSE TROUGHS, ADDITIONAL</u></p> <p>A second hose trough shall be provided and installed on the right side above the ladders.</p> <p><u>HANDRAILS</u></p> <p>The handrails shall be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.</p> <p>Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces.</p> <p>Drain holes shall be provided in the bottom of all vertically mounted handrails.</p> <p>Handrails shall be provided to meet NFPA 1901 section 15.8 requirements. The handrails shall be installed as noted on the sales drawing.</p> <p><u>HANDRAILS</u></p> <p>One (1) vertical handrail shall be located on each rear beavertail.</p> <p>One (1) horizontal black rubber-covered handrail shall be provided above the hose bed at the rear of the apparatus. The hose bed dividers shall be tied to the upper handrail or cross bar in order to provide sufficient reinforcement.</p> <p><u>AIR BOTTLE STORAGE (TRIPLE)</u></p> <p>A quantity of three (3) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep shall be provided on the right side forward of the rear wheels and on the</p>		

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	Yes	No
<p>right side rearward of the rear wheels, and on the left side forward of the rear wheels. A painted steel door with a Southco raised trigger C2 black lever latch shall be provided to contain the air bottle. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.</p> <p>Inside the compartment, black rubber matting shall be provided.</p> <p><u>AIR BOTTLE COMPARTMENT STRAP</u></p> <p>A strap shall be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap shall wrap around the neck and attach to the wall of the compartment.</p> <p><u>AIR BOTTLE HOLDERS</u></p> <p>One (1) bracket shall be provided for mounting an SCBA. Each bracket shall contain a collision restraint strap. It shall be mounted on tracks and used for adjusting the location of the bracket in the mounted area. The brackets shall be installed on the drivers side back wall of crewcab .</p> <p><u>EXTENSION LADDERS PROVIDED BY DEALER</u></p> <p>NFPA 1901, 2016 edition, section 5.8.1.2 requires an extension ladder.</p> <p>The extension ladder is not on the apparatus as manufactured. There shall be one (1) extension ladder(s) provided and installed by the dealer. The ladder(s) shall be a 28' Duo-Safety 1200-A, two (2)-section.</p> <p><u>ROOF LADDER PROVIDED BY DEALER</u></p> <p>NFPA 1901, 2016 edition, section 5.8.1.2 requires a minimum of one roof ladder.</p> <p>The roof ladder is not on the apparatus as manufactured. There shall be one (1) roof ladder(s) provided and installed by the dealer. The ladder(s) shall be a 16' Duo-Safety 875-A.</p> <p><u>LADDER BRACKETS</u></p> <p>The ladders shall be installed on the right side of the hose body in lined brackets and held in place by chrome plated, quarter-turn spring loaded clamps. The clamps shall be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place. The ladder brackets shall be adjustable up and down.</p> <p><u>HOSE STRAPS</u></p> <p>Three (3) nylon Velcro straps with two (2) footman loops each shall be installed equally spaced along the top exterior of the right-side compartment below the ladders. Placement shall accommodate double rows of flat loaded 1.75" rubber fire hose.</p> <p><u>FOLDING LADDER PROVIDED BY DEALER</u></p> <p>NFPA 1901, 2016 edition, section 5.8.1.2 requires a folding ladder.</p>		

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	Yes	No
<p>The folding ladder is not on the apparatus as manufactured. There shall be one (1) 10' aluminum Series 585-A Duo Safety folding ladder provided by the dealer. The ladder shall be installed in a stainless steel trough mounted below the ladders on the ladder brackets.</p> <p><u>FOLDING LADDER STORAGE</u></p> <p>One (1) folding ladder shall be stored behind the ladders on the side sheet, in a stainless steel U-shaped trough.</p> <p><u>PIKE POLE STORAGE</u></p> <p>Aluminum tubing shall be used for the storage of three (3) pike poles and shall be located Behind the ladders on the right side of the body. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate shall be provided. The pike pole tube shall be notched to allow a New York Style Roof Hook to fit into the tube. Tubes shall be long and big enough to accommodate a 6',8',12' Steel shaft New York Style Roof Hook.</p> <p><u>STEP</u></p> <p>A folding step shall be provided on the left side front bulkhead. The step shall be bright finished, non-skid with a black coating. The step can be used as a hand hold with two openings wide enough for a gloved hand.</p> <p><u>REAR FOLDING STEPS</u></p> <p>Bright finished, non-skid folding steps with a black coating shall be provided at the rear. Each step shall incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.</p> <p><u>PUMP</u></p> <p>Fire pump shall be a Waterous CXC20, 1500 gpm, single (1) stage centrifugal type. The pump shall be an end suction, pedestal mount, single inlet type.</p> <p>Pump shall be the class "A" type.</p> <p>Pump shall deliver the percentage of rated discharge at pressures indicated below:</p> <ul style="list-style-type: none"> - 100% of rated capacity at 150 psi net pump pressure. -70% of rated capacity at 200 psi net pump pressure. -50% of rated capacity at 250 psi net pump pressure. <p>Pump body shall be close-grained gray iron, bronze fitted.</p> <p>Impeller shaft shall be stainless steel, accurately ground to size. It shall be supported by oil or grease lubricated, anti-friction ball bearings for rigid precise support.</p> <p>Bearings shall be protected from water and sediment by suitable stuffing boxes, slinger rings, and oil seals. No special or sleeve type bearings shall be used.</p>		

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	Yes	No
<p>Pump shall be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.</p> <p>The mechanical seal shall consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring shall press against a highly polished stainless steel stationary ring that is sealed within the pump body.</p> <p>In addition, a throttling ring shall be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance shall not deteriorate, nor shall the pump lose prime, while drafting if the seal fails during pump operation.</p> <p>Wear rings shall be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.</p> <p><u>PUMPING MODE</u></p> <p>An interlock system shall be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system shall be designed to allow stationary pumping only.</p> <p><u>AIR PUMP SHIFT</u></p> <p>Pump shift engagement shall be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control shall also be located on the left side pump panel.</p> <p>Two (2) indicator lights shall be provided adjacent to the pump shift inside the cab. One (1) green light shall indicate the pump shift has been completed and be labeled "pump engaged". The second green light shall indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light shall be labeled "OK to pump".</p> <p>The pump shift shall be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.</p> <p>The pump shift control in the cab shall be illuminated to meet NFPA requirements.</p> <p><u>TRANSMISSION LOCK-UP</u></p> <p>The direct gear transmission lock-up for the fire pump operation shall engage automatically when the pump shift control in the cab is activated.</p> <p><u>AUXILIARY COOLING SYSTEM</u></p> <p>A supplementary heat exchange cooling system shall be provided to allow the use of water from the discharge side of the pump for cooling the engine water. Heat exchanger shall be a separate unit. It shall be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger shall be plumbed to the master drain valve.</p>		

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<p><u>INTAKE RELIEF VALVE</u></p> <p>One (1) intake relief valve(s) shall be installed on the suction side of the pump preset at 125 psig.</p> <p>The relief valve shall have a working range of 50 PSI to 350 PSI.</p> <p>The outlet shall terminate below the frame rails with a 2.50" National Standard hose thread adapter and shall have a "do not cap" warning tag.</p> <p>One (1) adjustable air regulator and pressure indicating gauge shall be located on a common bezel behind the right side pump panel with a stainless steel access door to control the intake valve(s).</p> <p><u>PRESSURE CONTROLLER</u></p> <p>A pressure governor shall be provided.</p> <p>A pressure transducer shall be installed in the water discharge manifold on the pump.</p> <p>The display panel shall be located at the pump operator's panel.</p> <p><u>PRIMING PUMP</u></p> <p>The priming pump shall be a compressed air powered, high efficiency, multistage venturi based priming system, conforming to standards outlined in the current edition of NFPA 1901.</p> <p>All wetted metallic parts of the priming system are to be of brass and stainless steel construction.</p> <p>One (1) priming control shall open the priming valve and start the pump primer.</p> <p><u>PUMP MANUALS</u></p> <p>There shall be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals shall be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual shall cover pump operation, maintenance, and parts.</p> <p><u>PLUMBING, STAINLESS STEEL AND HOSE</u></p> <p>All inlet and outlet lines shall be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's shall be equipped with brass or stainless steel couplings. All stainless steel hard plumbing shall be a minimum of a schedule 10 wall thickness.</p> <p>Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping shall be equipped with victaulic or rubber couplings.</p> <p>Plumbing manifold bodies shall be ductile cast iron or stainless steel.</p>		

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	Yes	No
<p>All piping lines are to be drained through a master drain valve or shall be equipped with individual drain valves. All drain lines shall be extended with a hose to drain below the chassis frame.</p> <p>All water carrying gauge lines shall be of flexible polypropylene tubing.</p> <p>All piping, hose and fittings shall have a minimum of a 500 PSI hydrodynamic pressure rating.</p> <p><u>MAIN PUMP INLETS</u></p> <p>A 6.00" pump manifold inlet shall be provided on each side of the vehicle. The suction inlets shall include screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.</p> <p><u>MAIN PUMP INLET CAP</u></p> <p>The main pump inlets shall have National Standard Threads with a long handle chrome cap.</p> <p>The cap shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><u>SHORT SUCTION TUBE(S)</u></p> <p>The suction tube(s) on the water pump shall have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.</p> <p><u>VALVES</u></p> <p>All valves shall use Akron Brass 8000 Series in-line ball valves.</p> <p><u>LEFT SIDE INLET</u></p> <p>There shall be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.</p> <p>The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.</p> <p><u>RIGHT SIDE INLET</u></p> <p>There shall be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.</p> <p>The auxiliary inlet shall be provided with a strainer, chrome swivel and plug.</p> <p>The location of the valve for the one (1) inlet shall be recessed behind the pump panel.</p> <p><u>INLET CONTROL</u></p> <p>The side auxiliary inlet(s) shall incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism shall indicate the position of the valve.</p> <p><u>INLET BLEEDER VALVE</u></p> <p>A 0.75" bleeder valve shall be provided for each side gated inlet. The valves shall be located behind the panel with a swing style handle control extended to the outside of the panel. The</p>		

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	Bidder Complies	
	Yes	No
<p>handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders shall be routed below the chassis frame rails.</p> <p><u>TANK TO PUMP</u></p> <p>The booster tank shall be connected to the intake side of the pump with stainless steel piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line shall run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing.</p> <p>A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.</p> <p><u>TANK REFILL</u></p> <p>A 1.50" combination tank refill and pump re-circulation line shall be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.</p> <p><u>LEFT SIDE DISCHARGE OUTLETS</u></p> <p>There shall be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.</p> <p><u>RIGHT SIDE DISCHARGE OUTLETS</u></p> <p>There shall be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.</p> <p><u>LARGE DIAMETER DISCHARGE OUTLET</u></p> <p>There shall be a 4.00" discharge outlet with a 4.00" Akron valve installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread adapter. This discharge outlet shall be actuated with a handwheel control at the pump operator's control panel.</p> <p>An indicator shall be provided to show when the valve is in the closed position.</p> <p><u>REAR DISCHARGE OUTLET</u></p> <p>There shall be Two (2) discharge outlets piped to the rear of the hose bed, one (1) each side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing shall consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.</p> <p><u>DISCHARGE OUTLET (REAR)</u></p> <p>There shall be One (1) discharge outlet piped to the rear of the hose bed. Drivers side rear Proper clearance shall be provided for spanner wrenches or adapters. Plumbing shall consist of 3.00" piping along with a 3.00" full flow ball valve with the control from the pump operator's</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p>panel. The One (1) discharge outlet shall terminate with a 2.50" male National Standard hose thread male adapter.</p> <p><u>DISCHARGE CAPS/PLUGS PROVIDED BY DEALER</u></p> <p>ULC CAN/ULCS515-13, 2013, Third (3rd) edition, section 15.7.2.3 states - "Other than outlets to which a hose will be pre-connected all discharge outlets, shall be equipped with caps or closures capable of withstanding a minimum hydrostatic burst gauge pressure of 700 Kpa (100 Psi) over the maximum pump close-off pressure or 3400 Kpa (495 Psi) whichever is greater.</p> <p>The dealer shall provide these caps/plugs to meet ULC CAN/ULCS515-13, 2013, Third (3rd) edition, section 15.7.2.3. These caps shall include a 2" to 1.5" reducer. The number of outlets/inlets the dealer shall supply caps/plugs for is Seven (7) discharge outlets.</p> <p><u>OUTLET BLEEDER VALVE</u></p> <p>A 0.75" bleeder valve shall be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.</p> <p>The valves shall be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles shall be chrome plated and provide a visual indication of valve position. The swing handle shall provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders shall be located at the bottom of the pump panel. They shall be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders shall be routed below the chassis frame rails.</p> <p><u>LEFT SIDE OUTLET ELBOWS</u></p> <p>The 2.50" discharge outlets located on the left side pump panel shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.</p> <p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><u>RIGHT SIDE OUTLET ELBOWS</u></p> <p>The 2.50" discharge outlets located on the right side pump panel shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.</p> <p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><u>REAR OUTLET ELBOWS</u></p> <p>The 2.50" discharge outlets, located at the rear of the apparatus, shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow.</p>		

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	Yes	No
<p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><u>ADDITIONAL REAR OUTLET ELBOWS</u></p> <p>The 2.50" discharge outlets, located at the rear of the apparatus, shall be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread chrome plated, 30 degree elbow.</p> <p>The elbow shall incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p> <p><u>LARGE DIAMETER OUTLET ELBOWS</u></p> <p>The 4.00" outlet(s) shall be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.</p> <p><u>DISCHARGE OUTLET CONTROLS</u></p> <p>The discharge outlets shall incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism shall indicate the position of the valve.</p> <p>If a handwheel control valve is used, the control shall be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.</p> <p>Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.</p> <p><u>DELUGE RISER</u></p> <p>A 3.00" deluge riser shall be installed centered above the pump in such a manner that a monitor can be mounted and used effectively. Piping shall be installed securely so no movement develops when the line is charged. The riser shall be gated and controlled at the pump operator's panel.</p> <p>Any 3.00 inch or larger discharge valve shall be a slow-operating valve in accordance with NFPA 16.7.5.3.</p> <p>The deluge riser shall accommodate Akron Brass Deck Gun Monitor #3246.</p> <p><u>CROSSLAY HOSE BEDS</u></p> <p>Two (2) crosslays with 1.50" outlets shall be provided. Each bed shall be at least 7.50" wide and be capable of carrying 200' of 1.75" double jacketed hose and shall be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.</p> <p>Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.</p> <p>The crosslay controls shall be at the pump operator's panel.</p>		

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	Bidder Complies	
	Yes	No
<p>The center crosslay dividers shall be fabricated of 0.25" aluminum and shall provide adjustment from side to side. The divider shall be unpainted with a brushed finish.</p> <p>Vertical scuffplates constructed of stainless steel shall be provided at the front and rear ends of the bed on each side of vehicle.</p> <p>Crosslay bed flooring shall consist of removable perforated brushed aluminum.</p> <p><u>CROSSLAY HOSE COVER</u></p> <p>A heavy black nylon webbing made of 1" nylon strap with a 2" box pattern webbing shall be provided across the top of the crosslay(s) to secure the hose during travel.</p> <p>Each webbing shall cover the top and ends of the crosslay(s) and be fastened with 2 quick release latches at the top on each side and through footman loops at the bottom of the crosslay(s).</p> <p>There shall be two (2) provided.</p> <p><u>FOAM SYSTEM</u></p> <p>A foam system shall not be required on this apparatus.</p> <p><u>PUMP COMPARTMENT</u></p> <p>The pump compartment shall be separate from the hose body and compartments so that each may flex independently of the other. The pump compartment shall be constructed of the same material as the body compartmentation.</p> <p>The pump compartment substructure shall be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.</p> <p>The pump compartment shall be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.</p> <p>Pump compartment, pump, plumbing and gauge panels shall be removable from the chassis in a single assembly.</p> <p><u>PUMP MOUNTING</u></p> <p>Pump shall be mounted to a substructure which shall be mounted to the chassis frame rail using rubber isolators. The mounting shall allow chassis frame rails to flex independently without damage to the fire pump.</p> <p><u>LEFT SIDE PUMP CONTROL PANEL</u></p> <p>All pump controls and gauges shall be located at the left (driver's) side of the apparatus and properly identified.</p> <p>Layout of the pump control panel shall be ergonomically efficient and systematically organized.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p>The pump operator's control panel shall be removable in two (2) main sections for ease of maintenance:</p> <p>The upper section shall contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels shall be removable from the face of the pump panel for ease of maintenance. Below the sub panels shall be located all valve controls and line pressure gauges.</p> <p>The lower section of the panel shall contain all inlets, outlets, and drains.</p> <p>All push/pull valve controls shall have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.</p> <p><u>IDENTIFICATION TAGS</u></p> <p>Tag color and label shall be determined by fire department during pre build trip.</p> <p>The identification tag for each valve control shall be recessed in the face of the tee handle.</p> <p>All discharge outlets shall have color coded identification tags, with each discharge having its own unique color. Color coding shall include the labeling of the outlet and the drain for each corresponding discharge.</p> <p>All line pressure gauges shall be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting shall be removable from the face of the pump panel for ease of maintenance. The casting shall be color coded to correspond with the discharge identification tag.</p> <p>All remaining identification tags shall be mounted on the pump panel in chrome plated bezels.</p> <p>The pump panel on the right (passenger's) side shall be removable with lift and turn type fasteners.</p> <p>Trim rings shall be installed around all inlets and outlets.</p> <p><u>PUMP PANEL CONFIGURATION</u></p> <p>The pump panel configuration shall be arranged and installed in an organized manner that shall provide user-friendly operation.</p> <p><u>PUMP AND GAUGE PANEL</u></p> <p>The pump and gauge panels shall be constructed of aluminum with a painted FormCoat black finish. A polished aluminum trim molding shall be provided around each panel.</p>		

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	Bidder Complies	
	Yes	No
<p>The right side pump panel shall be removable and fastened with swell type fasteners.</p> <p><u>PUMP COMPARTMENT LIGHT</u></p> <p>There shall be one (1) 3.00" white 12 volt DC LED light(s) with flange(s) installed in the pump compartment.</p> <p>There shall be a switch accessible through a door on the pump panel included with this installation.</p> <p>Engine monitoring graduated LED indicators shall be incorporated with the pressure controller.</p> <p>Also provided at the pump panel shall be the following:</p> <ul style="list-style-type: none"> - Master Pump Drain Control <p><u>THROTTLE READY GREEN INDICATOR LIGHT</u></p> <p>There shall be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.</p> <p><u>OK TO PUMP INDICATOR LIGHT</u></p> <p>There shall be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.</p> <p><u>AIR HORN BUTTON</u></p> <p>An air horn control button shall be provided at the pump operator's control panel. This button shall be properly labeled and put within easy reach of the operator.</p> <p><u>ALUMINUM HEAT ENCLOSURE</u></p> <p>A heat enclosure shall be installed, trapping hot air radiated from the engine exhaust system, which shall warm the fire pump. The enclosure shall consist of an aluminum understructure, with easily removable aluminum panels. Also a covering above the pump shall be provided, so warm air cannot escape freely.</p> <p><u>ELECTRIC GAUGE HEATER</u></p> <p>A 12v electric gauge heater shall be provided for all water carrying gauges.</p> <p><u>PUMP COMPARTMENT HEATER</u></p> <p>A hot water heater shall be installed in the pump compartment.</p> <p>Controls for the heater shall be located at the pump operator's panel.</p> <p><u>RUBBER BOOT</u></p> <p>The front and rear of the pump house shall be enclosed to contain the heat. The rear shall have openings for the plumbing only. A rubber boot shall be supplied around the plumbing, at the</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
front, sides and rear of the pump house, the boot shall allow the plumbing to flex and keep cold air out.		
<u>VACUUM AND PRESSURE GAUGES</u>		
The pump vacuum and pressure gauges shall be liquid filled.		
The gauges shall be a minimum of 4.00" in diameter and shall have white faces with black lettering, with a pressure range of 30.00"-0-600#.		
Gauge construction shall include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.		
The pump pressure and vacuum gauges shall be installed adjacent to each other at the pump operator's control panel.		
Test port connections shall be provided at the pump operator's panel. One (1) shall be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They shall have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They shall be marked with a label.		
This gauge shall include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.		
<u>PRESSURE GAUGES</u>		
The individual "line" pressure gauges for the discharges shall be interlube filled.		
They shall be a minimum of 2.50" in diameter and shall have white faces with black lettering.		
Gauges shall be compound type with a vacuum/pressure range of 30.00"-0-400#.		
The individual pressure gauge shall be installed as close to the outlet control as practical.		
<u>WATER LEVEL GAUGE</u>		
There shall be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights shall be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators shall be as follows:		
<ul style="list-style-type: none"> • 100 percent = Green • 75 percent = Yellow • 50 percent = Yellow • 25 percent = Yellow • Refill = Red 		
The light shall flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights shall flash sequentially when the water tank is empty.		

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	Yes	No
<p>The level measurement shall be based on the sensing of head pressure of the fluid in the tank.</p> <p>The display shall be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design shall provide complete protection from water and environmental elements. An industrial pressure transducer shall be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.</p> <p><u>STEP/LIGHT SHIELD</u></p> <p>There shall be an aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the pump operators panel.</p> <ul style="list-style-type: none"> • There shall be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights shall be activated by the pump panel light switch. Additional lights shall be included every 18.00" depending on the size of the pump house. • One (1) pump panel light shall come on when the pump is in ok to pump mode. <p>There shall be a light activated above the pump panel light switch when the parking brake is applied. This is to afford the operator some illumination when first approaching the control panel.</p> <p>There shall be one (1) white LED, step light provided above this step. In order to ensure exceptional illumination, each step light shall provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The step light shall be activated by the pump panel light switch.</p> <p><u>AIR HORN SYSTEM</u></p> <p>There shall be two (2) Grover air horns recessed in the front bumper. The horn system shall be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve shall be installed in-line to prevent loss of air in the air brake system.</p> <p><u>Air Horn Location</u></p> <p>The air horns shall be located on each side of the bumper, towards the outside.</p> <p><u>AIR HORN CONTROL</u></p> <p>One (1) lanyard rope pull control shall be provided. It shall be within easy reach of the driver and then extend over for use by the officer.</p> <p><u>Q2B SIREN</u></p>		

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	Bidder Complies	
	Yes	No
<p>A Federal Q2B Siren Shall be installed toward the passenger side in the front bumper. And the controls shall be wired to the horn switch on the steering wheel with a secondary control wired within reach of the officer in switch panel, not on the floor.</p> <p><u>ELECTRONIC SIREN</u></p> <p>A Whelen Model 295SLSA1 electronic siren with noise canceling microphone shall be provided.</p> <p>This siren to be active when the battery switch is on and that emergency master switch is on.</p> <p>Electronic siren head shall be recessed in the driver side center switch panel.</p> <p>The electronic siren shall be actuated by a momentary switch on the driver's and officer side instrument panel.</p> <p><u>SPEAKER</u></p> <p>There shall be one (1) Whelen Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless-steel grille provided. The speaker shall be connected to the siren amplifier.</p> <p>The speaker(s) shall be recessed towards the driver's side of the front bumper.</p> <p>The mechanical siren shall be mounted on the bumper deck plate. It shall be mounted on the left side A reinforcement plate shall be furnished to support the siren.</p> <p><u>FRONT ZONE UPPER WARNING LIGHTS</u></p> <p>There shall be one (1) 81.00" Whelen Freedom IV lightbar mounted on the cab roof.</p> <p>The lightbar shall include the following:</p> <ul style="list-style-type: none"> • one (1) red flashing LED module in the driver's side end position • one (1) red flashing LED module in the driver's side front corner position • one (1) red flashing LED module in the driver's side first front position • one (1) red flashing LED module in the driver's side second front position • one (1) white flashing LED module in the driver's side third front position • one (1) red flashing LED module in the driver's side fourth front position • one (1) red flashing LED module in the driver's side fifth front position • one (1) red flashing LED module in the driver's side sixth front position • one (1) strobe traffic light controller in the center positions powered from an external power supply • one (1) red flashing LED module in the passenger's side sixth front position • one (1) red flashing LED module in the passenger's side fifth front position • one (1) red flashing LED module in the passenger's side fourth front position • one (1) white flashing LED module in the passenger's side third front position • one (1) red flashing LED module in the passenger's side second front position • one (1) red flashing LED module in the passenger's side first front position 		

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	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • one (1) red flashing LED module in the passenger's side front corner position • one (1) red flashing LED module in the passenger's side end position <p>There shall be clear lenses included on the lightbar.</p> <p>There shall be a switch in the cab on the switch panel to control the lightbar.</p> <p>The two (2) white LED flashing modules shall be deactivated when the parking brake is applied.</p> <p>The 10 red flashing LED modules in the front positions may be load managed when the parking brake is applied.</p> <p>LED modules shall have a power reducing option to reduce brightness when vehicle is parked.</p> <p><u>POWER SUPPLY, STROBE</u></p> <p>There shall be one (1) strobe power supply set to national standard high priority provided in the apparatus to power the traffic light controller strobe tube.</p> <p>The power supply shall be controlled by a cab switch with emergency master control.</p> <p>There shall be no momentary switch to activate the traffic light controller.</p> <p>Power to this power supply shall be deactivated when the parking brake is applied.</p> <p><u>FRONT ZONE LOWER LIGHTS</u></p> <p>There shall be two (2) pair of LED lights installed on the cab face above the headlights, in a common bezel matching the one for the headlamps. The housing and trim shall be chrome finished.</p> <ul style="list-style-type: none"> • The driver's side front outside warning light to be red • The driver's side front inside warning light to be red • The passenger's side front inside light to be green • The passenger's side front outside warning light to be red • The color of the lenses shall be clear <p>There shall be a switch located in the cab on the switch panel to control the lights.</p> <p>LED modules shall have a power reducing option to reduce brightness when vehicle is parked.</p> <p><u>HEADLIGHT FLASHER</u></p> <p>The high beam headlights shall flash alternately between the left and right side.</p> <p>There shall be a switch installed in the cab on the switch panel to control the high beam flash. This switch shall be live when the battery switch and the emergency master switches are on.</p> <p>The flashing shall automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.</p>		

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	Bidder Complies	
	Yes	No
<p><u>SIDE ZONE LOWER LIGHTING</u></p> <p>There shall be four (4) flashing LED warning lights with chrome trim provided per the following:</p> <ul style="list-style-type: none"> • Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red. • Two (2) lights, Body fender panels. The side rear lights to be red. • The lights shall include clear lenses. <p>There shall be a switch in the cab on the switch panel to control the lights.</p> <p>LED modules shall have a power reducing option to reduce brightness when vehicle is parked.</p> <p><u>REAR ZONE LOWER LIGHTING</u></p> <p>There shall be two (2) LED flashing warning lights shall be located at the rear of the apparatus.</p> <ul style="list-style-type: none"> • The driver's side rear light to be red • The passenger's side rear light to be red <p>Both lights shall include a lens that is the same color as the LED's.</p> <p>There shall be a switch located in the cab on the switch panel to control the lights.</p> <p>LED modules shall have a power reducing option to reduce brightness when vehicle is parked.</p> <p><u>REAR/SIDE ZONE UPPER WARNING LIGHTS</u></p> <p>There shall be two (2) LED warning beacons provided at the rear of the truck, located one (1) each side. There shall be a switch located in the cab on the switch panel to control the beacons.</p> <p>The color of the lights shall be red LEDs with both domes clear.</p> <p>The left side rear warning light shall be mounted on top of the compartmentation with all wiring totally enclosed. The clearance/marker light shall be mounted to the side of the compartment ridge.</p> <p>The right side rear warning light shall be mounted on a low mount stainless steel bracket with all wiring totally enclosed. This brackets shall also support the clearance/marker light.</p> <p>The rear deck lights shall be mounted on the beavertail flange to keep the overall height as low as possible.</p> <p>LED modules shall have a power reducing option to reduce brightness when vehicle is parked.</p> <p><u>TRAFFIC DIRECTING LIGHT</u></p> <p>There shall be one (1) 30.36" long x 1.74" high x 2.17" deep, amber LED traffic directing light installed at the rear of the apparatus.</p>		

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	Bidder Complies	
	Yes	No
<p>The control head shall be included with this installation.</p> <p>This traffic directing light shall be surface mounted over the rear door, at the rear of the apparatus as high as practical.</p> <p>The traffic directing light control head shall be mounted in location accessible by both driver and officer.</p> <p><u>120 VOLT RECEPTACLES</u></p> <p>There shall be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless steel wall plate(s), installed (1) in each EMS cabinet. The NEMA configuration for the receptacle(s) shall be 5-20R.</p> <p>The receptacle(s) shall be powered from the shoreline inlet.</p> <p>There shall be a label installed near the receptacle(s) that state the following:</p> <ul style="list-style-type: none"> • Line Voltage • Current Rating (amps) • Phase • Frequency <p><u>120 VOLT RECEPTACLE</u></p> <p>There shall be two (2), 15/20-amp 120-volt AC three (3) wire straight blade duplex receptacle(s) a vehicle body compartment with interior stainless-steel wall plate(s), installed To be determined later. The NEMA configuration for the receptacle(s) shall be 5-20R.</p> <p>The receptacle(s) shall be powered from the shoreline inlet.</p> <p>There shall be a label installed near the receptacle(s) that state the following:</p> <ul style="list-style-type: none"> • Line Voltage • Current Rating (amps) • Phase • Frequency <p><u>LOOSE EQUIPMENT PROVIDE BY MANUFACTURER</u></p> <p>The following equipment shall be furnished with the completed unit:</p> <ul style="list-style-type: none"> • One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit <p><u>NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT</u></p> <p>The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 shall be provided by the fire department.</p>		

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	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • 800 ft (60 m) of 2.50" (65 mm) or larger fire hose. • 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose. • One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer. • One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s). • One (1) first aid kit. • One (1) double female 2.50" (65 mm) adapter with National Hose threads. • One (1) double male 2.50" (65 mm) adapter with National Hose threads. • One (1) rubber mallet, for use on suction hose connections. • Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m). • One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i>, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. • Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (102 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band. • Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. • One (1) automatic external defibrillator (AED). • Four (4) ladder belts meeting the requirements of NFPA 1983, <i>Standard on Fire Service Life Safety Rope and System Components</i> (if equipped with an aerial device). • If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, shall be carried mounted in brackets fastened to the apparatus. • If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side shall be carried. Any intake connection larger than 3.00" (75 mm) shall include a pressure relief device that meets the requirements of 16.6.6. • If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake shall be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake. • If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters shall be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake. 		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT</u> NFPA 1901, 2016 edition, section 5.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose shall be carried.</p> <p>Hose is not on the apparatus as manufactured. The fire department shall provide suction or supply hose.</p> <p><u>STRAINER PROVIDED BY DEALER</u> NFPA 1901, 2016 edition, section 5.8.2.1.1 requires a suction strainer when suction hose is provided.</p> <p>The strainer is not on the apparatus as manufactured. The dealer shall provide the suction strainer.</p> <p><u>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u> NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><u>WATER EXTINGUISHER PROVIDED BY DEALER</u> NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The Dealer shall provide the extinguisher as detailed below.</p> <p><u>FLATHEAD AXE PROVIDED DEALER</u> NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.</p> <p>The axe is not on the apparatus as manufactured. The dealer shall provide and mount the axea s detailed below.</p> <p><u>PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT</u> NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.</p> <p>The axe is not on the apparatus as manufactured. The fire department shall provide and mount the axe.</p> <p><u>ADDITIONAL LOOSE EQUIPMENT PROVIDED BY DEALER</u></p> <p>2 - TFT Ball Intake Valve Model: AB3ST-NX</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

		Bidder Complies	
		Yes	No
3 - 6' NY Roof Hook w/ Steel shaft and chisel ends	Model: RH-6		
1 - 8' NY Roof Hook w/ Steel shaft and chisel ends	Model: RH-8		
1 - 12' NY Roof Hook w/ Steel shaft and chisel ends	Model: RH-12		
1 - TFT Foam Eductor	Model: TFT UE-125-NF		
1 - 6" Kocheck Low Level Strainer	Model: KC-LL60		
2 - 30" Probar	Model: PB-30 FHU		
1 - FHU 8# Flathead Force Axe	Model: FA-8 FHU		
1 - IronsLOK PAC Tool Mount	Model: K5003		
1 - Akron Brass Deck Gun Monitor	Model: #3426		
1 - Akron Brass Quad Stack Tips	Model: #2499		
1- Akron Brass Stream Shaper	Model: #3488		
2 - 2.5 gal. Pump Can Painted Red Copper	Model: Miller-Peerless		
1 - Hose Roller	Model: Harrington HHR-2		
3 - 50' sections of 5" LDH Supply hose w/ couplings	Model: Pro-Flow CPLD		
1 - Harrington 1/4 Turn Ball Valve	Model: HHBV-40-25NH		
2 - TFT Spanner Wrench Combo's	Model: TFT A3845		
2 - TFT Stortz Wrench	Model: TFT A3810		
3 - Elkhart 2.5" Shut-Off Nozzle	Model: 2.5" XD Shut-off		
3 - Elkhart 1.5" Shut-Off Nozzle	Model: 1.5" XD Shut-off		
2 - Elkhart 1.5" Combination Nozzle 150 gpm @ 75 psi	Model: Elkhart 4000-16		
1 - Elkhart 2.5" spin-on fog nozzle tip	Model: Elkhart 4000-22		
3 - Akron spindown tip 1.5";1.5" with a 1.25" orifice	Model: Akron Straight tip 416		
3 - Elkhart 1.5" tip with a .875" orifice	Model:187 XD 1.5" tip		
1 - Honda Generator	Model: EU2200i		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>PAINT</u></p> <p>The exterior custom cab and body painting procedure shall consist of a seven (7) step finishing process as follows:</p> <ol style="list-style-type: none"> 1. <u>Manual Surface Preparation</u> - All exposed metal surfaces on the custom cab and body shall be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces shall be removed and sanded to a smooth finish. Exterior seams shall be sealed before painting. Exterior surfaces that shall not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate. 2. <u>Chemical Cleaning and Pretreatment</u> - All surfaces shall be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces shall be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces shall be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. 3. <u>Surfacer Primer</u> - The Surfacer Primer shall be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded. 4. <u>Finish Sanding</u> - The Surfacer Primer shall be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat. 5. <u>Sealer Primer</u> - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated. 6. <u>Basecoat Paint</u> - Two coats of a high performance, two component high solids polyurethane basecoat shall be applied. The Basecoat shall be applied to a thickness that shall achieve the proper color match. The Basecoat shall be used in conjunction with a urethane clear coat to provide protection from the environment. Paint Code #344 shall be used. 7. <u>Clear Coat</u> - Two (2) coats of Clear Coat shall be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors shall be Clear Coated to match the body. Paint warranty for the roll-up doors shall be provided by the roll-up door manufacturer. <p>After the cab and body are painted, the color shall be verified to make sure that it matches the color standard. Electronic color measuring equipment shall be used to compare the color</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p>sample to the color standard entered into the computer. Color specifications shall be used to determine the color match. A Delta E reading shall be used to determine a good color match within each family color.</p> <p>All removable items such as brackets, compartment doors, door hinges, and trim shall be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly shall be finish painted before assembly.</p> <p>The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. These requirements must be met in order for the exterior paint finish to be considered acceptable. The manufacture's written paint standards shall be available upon request.</p> <p><u>PAINT - ENVIRONMENTAL IMPACT</u></p> <p>Contractor shall meet or exceed all current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water and soil. Controls shall include the following conditions:</p> <ul style="list-style-type: none"> • Topcoats and primers shall be chrome and lead free. • Metal treatment chemicals shall be chrome free. The wastewater generated in the metal treatment process shall be treated on-site to remove any other heavy metals. • Particulate emission collection from sanding operations shall have a 99.99% efficiency factor. • Particulate emissions from painting operations shall be collected by a dry filter or water wash process. If the dry filter is used, it shall have an efficiency rating of 98.00%. Water wash systems shall be 99.97% efficient • Water from water wash booths shall be reused. Solids shall be removed on a continual basis to keep the water clean. • Paint wastes are disposed of in an environmentally safe manner. • Empty metal paint containers shall be recycled to recover the metal. • Solvents used in clean-up operations shall be recycled on-site or sent off-site for distillation and returned for reuse. <p>Additionally, the finished apparatus shall not be manufactured with or contain products that have ozone depleting substances. Contractor shall, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.</p> <p><u>CAB PAINT</u></p> <p>The cab shall be painted #344.</p>		

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	Bidder Complies	
	Yes	No
<p><u>BODY PAINT</u></p> <p>The body shall be painted to match the single cab paint color.</p> <p><u>PAINT/SEAL CHASSIS FRAME ASSEMBLY</u></p> <p>The following components shall be treated with epoxy protection prior to finish paint:</p> <ul style="list-style-type: none"> • Two (2) C-channel frame rails <p>Before the frame rails are finish painted, all areas shall be sealed with a 3M 2084 metal sealant after the components are torqued to the frame rails:</p> <ul style="list-style-type: none"> - The joint between all crossmembers and the frame - The joint between all spring hangers and the frame. <p>The chassis frame assembly shall be finished with primer and gloss paint to match the lower job color before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.</p> <p>Components that are included with the chassis frame assembly that shall be finish painted are:</p> <ul style="list-style-type: none"> • Frame rails • Cross members • Axles • Suspensions • Steering gear • Battery boxes • Bumper extension weldment • Frame extensions • Body mounting angles • Rear Body support substructure (front and rear) • Pump house substructure • Air tanks • Steel fuel tank • Castings • Individual piece parts used in chassis and body assembly <p>After the chassis frame assembly is finish painted, the following non-torqued joints shall be sealed with a rust-proofing compound:</p> <ul style="list-style-type: none"> -All bolted on chassis components that could be vulnerable to rust, i.e. body mounting angles, air tanks, etc. <p>To summarize, all metal to metal contact components that are prone to rust, shall be protected.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>PAINT, FRONT WHEELS</u> All wheel surfaces, inside and outside, shall be provided with powder coat paint #101 black.</p> <p><u>PAINT, REAR WHEELS</u> All wheel surfaces, inside and outside, shall be provided with powder coat paint #101 black.</p> <p><u>AXLE HUB PAINT</u> All axle hubs shall be painted to match primary job color.</p> <p><u>COMPARTMENT INTERIOR PAINT</u> The interior of all compartments shall be painted with a gray spatter type paint.</p> <p><u>REFLECTIVE STRIPES</u> Three (3) reflective stripes shall be provided across the front of the vehicle and along the sides of the body. The reflective band shall consist of a 1.00" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom. And a 1/4" black trim on each edge of each white strip.</p> <p>The reflective band provided on the cab face shall be at the headlight level.</p> <p><u>REAR CHEVRON STRIPING</u> There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, including the rear compartment door, shall be covered.</p> <p>The colors shall be red and fluorescent yellow green diamond grade.</p> <p>Each stripe shall be 6.00" in width.</p> <p>This shall meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface shall be covered with chevron striping.</p> <p><u>REAR COMPARTMENT LETTERING</u> White Vinyl Lettering shall be provided and trimmed in 1/4" black vinyl. Lettering shall say "Engine " in five-inch (5") type and "5" in fourteen inch (14)" type.</p> <p><u>CAB DOOR REFLECTIVE STRIPE</u> A 6.00" x 16.00" white reflective stripe shall be provided across the interior of each cab door. The stripe shall be located approximately 1.00" up from the bottom, on the door panel.</p> <p>This stripe shall meet the NFPA 1901 requirement.</p> <p><u>LETTERING</u> The lettering shall be totally encapsulated between two (2) layers of clear vinyl.</p>		

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	Yes	No
<p><u>LETTERING</u> Eighty-one (81) to one hundred (100) printed effect gold leaf lettering, 3.00" high, with outline and shade shall be provided.</p> <p><u>UNDERCOATING, CAB & BODY</u> The apparatus shall be properly treated by an authorized dealer.</p> <p>The underside of the apparatus shall be undercoated with an asphalt petroleum based material, dark in color.</p> <p>The undercoating material utilized on the apparatus shall be formulated to resist corrosion and deaden unwanted sound or road noise.</p> <p>Coating texture shall appear firm, flexible, and resistant to abrasion. Minimum dry film thickness shall be in the range of 8.00 to 12.00 mils.</p> <p>The material shall be applied to the following areas:</p> <p>Body and cab wheel well fender liners, on the back side only.</p> <p>Underside of body and cab sheet metal, and structural components.</p> <p>Underside and vertical sides of all sheet metal compartmentation, including support angles.</p> <p>Structural support members under running boards, rear platforms, battery boxes, walkways, etc.</p> <p>Inside surfaces of the pump heat enclosure, (when installed).</p> <p><u>FIRE APPARATUS PARTS MANUAL</u> There shall be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.</p> <p><u>Service Parts Internet Site</u> The service parts information included in these manuals are also available on the Internet.</p> <p><u>CHASSIS SERVICE MANUALS</u> There shall be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit.</p> <p>The manual shall contain the following sections:</p> <ul style="list-style-type: none"> • Job number • Table of contents • Troubleshooting • Front Axle/Suspension • Brakes • Engine 		

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	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • Tires • Wheels • Cab • Electrical, DC • Air Systems • Plumbing • Appendix <p>The manual shall be specifically written for the chassis model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.</p> <p><u>CHASSIS OPERATION MANUAL</u></p> <p>The chassis operation manual shall be provided on one (1) USB flash drive.</p> <p><u>ONE (1) YEAR MATERIAL AND WORKMANSHIP</u></p> <p>Each new piece of apparatus shall be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>ENGINE WARRANTY</u></p> <p>A five (5) year limited engine warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>STEERING GEAR WARRANTY</u></p> <p>A three (3) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>FIFTY (50) YEAR STRUCTURAL INTEGRITY</u></p> <p>The chassis frame shall be provided with a fifty (50) year material and workmanship limited warranty. The warranty shall cover the chassis frame as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</u></p> <p>Independent front suspension shall be provided with a three (3) year material and workmanship limited warranty. The manufacturer's warranty shall provide that the independent front suspension and steering gears be free from any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (no exception).</p>		

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	Bidder Complies	
	Yes	No
<p><u>REAR AXLE WARRANTY</u> A five (5)-year/100,000 mile parts and labor warranty shall be provided.</p> <p><u>BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</u> A three (3) year brake system limited warranty shall be provided.</p> <p><u>TEN (10) YEAR STRUCTURAL INTEGRITY</u> The new cab shall be provided with a ten (10) year material and workmanship limited warranty. The warranty shall cover such portions of the cab built by the manufacturer as being free from structural failures caused by defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</u> Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus cab. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>COMPARTMENT LIGHT WARRANTY</u> A ten (10) year material and workmanship limited warranty shall be provided for the Pierce 12 volt DC LED strip lights. The warranty shall cover the LED strip lights to be free from defects in material and workmanship that would arise under normal use.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>TRANSMISSION WARRANTY</u> The transmission shall have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty is to be provided by transmission supplier and not the apparatus builder.</p> <p><u>TRANSMISSION COOLER WARRANTY</u> The transmission cooler shall carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty shall also be in effect for the first three (3) years of the warranty coverage and shall not exceed \$10,000 per occurrence. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>WATER TANK WARRANTY</u> The poly water tank shall be provided with a lifetime material and workmanship limited warranty.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p>		

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	Bidder Complies	
	Yes	No
<p><u>TEN (10) YEAR STRUCTURAL INTEGRITY</u></p> <p>Each new piece of apparatus shall be provided with a ten (10) year material and workmanship limited warranty on the apparatus body. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY</u></p> <p>A roll-up door limited warranty shall be provided. The roll-up door shall be warranted against manufacturing defects for a period of ten (10) years. A five (5) year limited warranty shall be provided on painted roll up doors.</p> <p>A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>PUMP WARRANTY</u></p> <p>The pump shall be provided with a Seven (7) year material and workmanship limited warranty.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>TEN (10) YEAR PUMP PLUMBING WARRANTY</u></p> <p>The stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of ten (10) years or 100,000 miles. This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten years from the date of delivery.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</u></p> <p>Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus body. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>THREE (3) YEAR MATERIAL AND WORKMANSHIP</u></p> <p>The gold leaf lamination shall be provided with a three (3) year material and workmanship limited warranty. The warranty shall cover the gold leaf lamination as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>VEHICLE STABILITY CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification shall be provided at the time of bid.</p> <p><u>ENGINE INSTALLATION CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification shall be provided at the time of delivery.</p> <p><u>POWER STEERING CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification shall be provided at the time of bid.</p> <p><u>CAB INTEGRITY CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a cab crash test certification with this proposal. Testing shall meet or exceed the requirements below:</p> <ul style="list-style-type: none"> • European Occupant Protection Standard ECE Regulation No.29. • SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. • SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. <p>There shall be no exception to any portion of the cab integrity certification. Nonconformance shall lead to immediate rejection of bid.</p> <p><u>CAB DOOR DURABILITY CERTIFICATION</u></p> <p>Robust cab doors help protect occupants. Cab doors shall survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder shall certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.</p> <p><u>WINDSHIELD WIPER DURABILITY CERTIFICATION</u></p> <p>Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers shall survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i>. The bidder shall certify that the wiper system design has been tested and that the wiper system has met these criteria.</p> <p><u>SEAT BELT ANCHOR STRENGTH</u></p> <p>Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design shall withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder shall certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p>		

CUSTOM PUMPER SPECIFICATIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<p><u>SEAT MOUNTING STRENGTH</u></p> <p>Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design shall be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder shall certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p> <p><u>PERFORMANCE CERTIFICATIONS</u></p> <p><u>Cab Air Conditioning</u></p> <p>Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system shall cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder shall certify that a substantially similar cab has been tested and has met these criteria.</p> <p><u>Cab Defroster</u></p> <p>Visibility during inclement weather is essential to safe apparatus performance. The defroster system shall clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder shall certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</p> <p><u>Cab Auxiliary Heater</u></p> <p>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater shall warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder shall certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</p> <p><u>AMP DRAW REPORT</u></p> <p>The bidder shall provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.</p> <p>The manufacturer of the apparatus shall provide the following:</p> <ul style="list-style-type: none"> • Documentation of the electrical system performance tests. • A written load analysis, which shall include the following: <ul style="list-style-type: none"> ○ The nameplate rating of the alternator. ○ The alternator rating under the conditions specified per: <ul style="list-style-type: none"> ▪ Applicable NFPA 1901 or 1906 (Current Edition). ○ The minimum continuous load of each component that is specified per: <ul style="list-style-type: none"> ▪ Applicable NFPA 1901 or 1906 (Current Edition). 		

CUSTOM PUMPER SPECIFICTIONS FOR CITY OF KANKAKEE FIRE DEPARTMENT

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> o Additional loads that, when added to the minimum continuous load, determine the total connected load. o Each individual intermittent load. <p>All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>		